

THE CASE AGAINST LEAD: CALIFORNIA'S PROPOSITION 65 AND THE FIGHT AGAINST LEAD FAUCETS

by Julie Duncan

In December of 1992, the Environmental Law Foundation and the Natural Resources Defense Council, along with the California Attorney General, filed suit¹ against the manufacturers of faucets and instant hot water dispensers which leach lead into drinking water at levels greater than allowed under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65).² The suit uses California's innovative toxics regulations to address a source of lead in drinking water which has eluded federal regulators for years. This article discusses Proposition 65 and the advantages it brings to regulating toxins in consumer products, emphasizing the case of lead in plumbing products.

PROPOSITION 65

On November 4, 1986, the voters of California approved, by a 2-1 margin, a ballot initiative designed to revolutionize the regulation of toxic substances.³ Prop. 65 was written in response to decades of toxics laws which had provided little actual protection to the public.⁴ The remarkably concise statute contains the following key provisions:

* A mechanism by which the state lists chemicals as carcinogens and/or reproductive toxins and sets "no significant risk" levels which companies can use as guidelines. For reproductive toxins, "no significant risk" is defined as 1/1,000 the "no observable effect level;"⁵

* A prohibition against discharging listed chemicals into sources of drinking water;⁶

* A requirement that the public, consumers, and workers be warned if they are exposed

to listed chemicals in amounts that exceed levels identified as safe;⁷

* Citizen enforcement by lawsuits, if state or local prosecutors fail to act after being given 60-days notice of an impending citizen suit;⁸

* Penalties of up to \$2,500 per day for any violation.⁹

The first provision, the listing and determining of "no significant risk" levels, contains an innovation that is deceptively simple, but has had a profound impact on the way toxins are regulated in California. In short, Prop. 65 places the burden on the regulated industry to show that they cause exposures below the legal limit, while previous legislation has placed the burden on government agencies to prove a particular company is above the legal limit.¹⁰ Thus, while under other laws the regulated industry has an incentive to slow down the process of determining "no significant risk" levels and thus protect themselves from prosecution, under Prop. 65 industry actually benefits from early decisions regarding safety levels. The success of this change can be seen in that California's regulators have set "no significant risk" levels for more chemicals in the past 12 months than the EPA has managed to address under the federal Toxic Substances Control Act in the past 12 years.¹¹

Prop. 65 also bans the discharge of listed chemicals into a source of drinking water, defined as "either a present source of drinking water or water which is identified ... as being suitable for domestic or municipal use."¹² For other exposure pathways, such as airborne substances, Prop. 65 requires the polluter to simply provide a "clear and reasonable" warning to

the exposed individuals.¹³ This seemingly minor requirement provides a marketing and public relations incentive for companies to "clean up shop" to avoid the need to provide such warnings. An example of the effectiveness of the warning provision of Prop. 65 is the case of Liquid Paper. The manufacturer of Liquid Paper replaced cancer-causing trichloroethylene in its correction fluid in response to a Prop. 65 suit filed by environmental groups.¹⁴ Not only did the company thus avoid the undesirable "contains a chemical known by the state of California to cause cancer" label, but they were quick to tout their "New Formula" which "meets Proposition 65 environmental guidelines."¹⁵

The last two provisions of Prop. 65 provide a mechanism and an incentive for private parties to enforce the law. Other

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environmental laws suffer by relying on public agencies for enforcement action, which may lack the funding or political will to take action. Prop. 65 allows public interest groups to file cases on behalf of exposed parties without necessarily involving public agencies.¹⁶ Public enforcement agencies such as the Attorney General's office do, however, have the right to intervene upon receiving notice of such cases. The up to \$2,500 per day penalties provide a way for public interest organizations to cover the cost of bringing such suits, as well as providing a powerful incentive for companies to obey the law and to negotiate a settlement when caught violating the law.

USING PROP. 65 TO ELIMINATE LEAD FROM FAUCETS

Lead exposure presents one of the greatest environmental health risks to

children in the United States today. A recent report¹⁷ to Congress by the Agency for Toxic Substances and Disease Registry estimates that three to four million children under age six have blood lead levels over 15 micrograms/deciliter (ug/dL)¹⁸ with "lead toxicity" defined as 10 ug/dL. Lead exposure has been correlated with behavioral and learning disabilities, as well as with reproductive toxicity and cancer. New studies linking low-level lead exposure to cognitive damage in children are driving regulatory agencies' and public reaction to lead.¹⁹ This damage is measurable and irreversible. In response to this threat, the U.S. Environmental Protection Agency (EPA) has set a Maximum Contaminant Level Goal of zero parts per billion (ppb) for lead in household drinking water.²⁰

Everyone is at risk. Although lead poisoning is commonly associated with children living in housing which contains lead paint, all sectors of society are affected by the proliferation of lead in the environment. While lead paint is the major source of childhood lead poisoning,²¹ lead in drinking water is estimated to account for elevated lead levels in nearly a quarter of a million people nationwide.²² Lead pipe, lead solder, and lead-alloy brass plumbing fixtures can all contribute to high lead levels in drinking water. A study of more than 4,000 homes nationwide²³ found that about 17 percent of homes tested had first draw²⁴ lead concentrations greater than 10 parts per billion, a level considered to be a possible threshold for measurable long-term neurologic effects. Leaching from brass faucets causes a significant percentage (33-50%) of first draw tap water lead.²⁵ Further, plumbing fixtures of all ages and levels of quality can leach significant amounts of lead.²⁶

Despite evidence that lead leaches from plumbing fixtures into drinking water, government agencies have done little to regulate lead in these products. Proposition 65 however, provides a mechanism by

which public interest groups and local, county, and state enforcement agencies can take legal action against products which expose the public to chemicals such as lead. To this end, the Environmental Law Foundation and the Natural Resources Defense Council initiated an investigation into the lead-leaching properties of kitchen faucets and instant hot water dispensers commonly available to consumers in California.²⁷ The study²⁸ found that 20 out of 21 fixtures tested clearly leached lead in amounts greater than allowed under Prop. 65.²⁹ This and other research resulted in the two environmental groups, as well as the California Attorney General, filing suit against the manufacturers of the products tested.

HEALTH EFFECTS OF LEAD EXPOSURE

Health hazards associated with high doses of lead have been known for centuries. These include damage to the kidneys, liver, immune system, and central nervous system.³⁰ Animal studies have linked other effects, including carcinogenicity, mutagenicity, and reproductive toxicity, to lead exposure.³¹ Lead is particularly hazardous because the human body stores lead permanently in the bones, as well as storing it for short periods in the brain and most other soft tissues.³² While there are some treatments available for removing lead from tissues, they are painful, expensive, and do not necessarily reverse the health effects of the original exposure.³³

The physiological stress of events such as pregnancy and nursing may also mobilize lead from storage sites in the body.³⁴ In pregnant women, lead readily crosses the placental barrier early in gestation. In utero lead exposure to the fetus, therefore, may occur at periods of development when vital organs and organ systems can be adversely affected by lead uptake.³⁵

Over the past 20 years scientific research has begun to focus particular attention on the effects of low lead levels on human health.³⁶ Several epidemiological studies have been performed to address the issue of low lead level exposure and neurological damage in children.³⁷ In general, the studies compare lead levels to such neurological indicators as the child's IQ, motor skills, and/or behavioral patterns.³⁸ These studies find a correlation between lead exposure and neurological deficit in children. This correlation raises concerns that lead levels once considered safe may cause measurable and irreversible damage to children. This new research recently led the Centers for Disease Control (CDC) to lower its definition of lead toxicity from 25 to 10 ug/dL.³⁹

Low-level lead exposure is particularly insidious because victims lack any clinical symptoms.⁴⁰ The only way to determine whether a child has been exposed

"... lead levels once considered safe may cause measurable and irreversible damage to children...."

to elevated lead levels is to have the child tested for lead.⁴¹ Because children suffering from low-levels of lead exposure do not exhibit clinical symptoms, many are not diagnosed. Furthermore, the source of lead exposure is not identified and removed from the child's environment. Such intervention is one of the only steps that can be taken once a child has been exposed. It is therefore extremely important to test children's blood lead level, particularly if there is reason to suspect that they may be exposed to lead from any source.

LEGAL PROTECTION FROM LEAD EXPOSURE

Federal Action

Several steps have been taken at the federal level to remove sources of lead from

the environment. First, the federal government effectively banned leaded paint for residential use after 1979.⁴² Most homes built before 1979, however, still contain lead paint.⁴³ Second, leaded gasoline, the greatest environmental source of lead, is being phased-out across the country and was completely eliminated in California as of January 1993.⁴⁴ Finally, in 1986, Congress began to address the issue of lead in drinking water by banning the use of lead pipe and lead solder in drinking water systems and setting up a program for removing lead pipe currently in place.⁴⁵ The 1986 lead ban, however, contains a loophole which allows faucets made from up to 8% lead to be sold in the United States.⁴⁶ California's more stringent state toxics laws provide the opportunity to close this loophole.

Limits on Lead: Proposition 65

California's Prop. 65 prohibits the discharge of significant amounts of chemicals, known to the state to cause cancer or reproductive harm, into drinking water and mandates prior warning of individuals exposed to significant risk from such chemicals through any medium.⁴⁷ Other than the suits involving leaching from water faucets, only one "discharge" case has

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been filed, against a company which disposed of solid and aqueous lead-containing waste into a dry well and into ground water used for municipal water supplies.⁴⁸ The warning requirement of the law, however, has been successfully used to negotiate settlements with companies emitting toxins into the air from manufacturing plants, as well as those exposing consumers to listed chemicals used in products. Both aspects of the law are at

issue in the current case.

Prop. 65 is particularly suited to addressing lead exposure, and has been used in cases involving several consumer products, including lead-glazed china,⁴⁹ lead crystal,⁵⁰ and lead caps on wine bottles.⁵¹ Unlike most laws regulating toxic chemicals, Prop. 65 acts against an exposure before it occurs. This is particularly important because of the irreversible nature of lead exposure. Many lead programs rely on using children as "canaries in a coal mine." These programs take action only after high levels of lead have been found in a child's blood. Prop. 65's implementing regulations define an "exposure" as "to cause to ingest, inhale, contact via body surfaces or otherwise come into contact with a chemical."⁵² Actual poisoning of an individual, therefore, is not necessary for action under Prop. 65. Prop. 65 also has the advantage of a low trigger level for action. The level set for lead is 0.5 ug/day⁵³, which is significantly lower than other statutes regulating lead levels. Prop. 65 therefore provides greater protection against lead, a chemical which causes observable effects at very low levels of exposure.

Making the Case: An Investigation of Lead Leaching

Although the burden of proof in a Prop. 65 lawsuit to establish that the exposure poses "no significant risk," falls entirely on the person responsible for the exposure,⁵⁴ Plaintiffs clearly need to determine whether a potential defendant can meet their burden before filing a 60 day notice. Accordingly, the Environmental Law Foundation and Natural Resources Defense Council identified faucets sold in California and had samples of these products tested for lead leaching.⁵⁵ Researchers identified those manufacturers with the largest apparent market share of faucets sold directly to consumers,⁵⁶ based on phone calls and visits to retail outlets. Three

samples of a single model from each company were then tested for lead leaching.

The faucets were tested for lead leaching at the Environmental Quality Institute at the University of North Carolina at Asheville, following the protocol suggested by the National Sanitation Foundation (NSF) for determining metal leaching properties (NSF is composed of representatives from the plumbing industry and government agencies).⁵⁷ The NSF protocol requires 90 days of actual testing. Due to the nature of the project, and the stringent limits California law places on lead exposures and discharges, full 90-day testing was unnecessary. Rather, the investigation study was performed over an 8 day period, with the initial two days used for conditioning the faucets.

Figure 1 indicates the average level leached by each faucet over the six day test period. Each bar on the chart represents the results for three faucets of a single model of the brand indicated. The average amount of lead leached for each faucet model ranged from five to nearly 250 times the Prop. 65 level of 0.5 ug/day.⁵⁸ When interpreting these results, it is important to remember that a brand new faucet of a single model was tested for each brand. The amount of lead leached by faucets of the same model produced at the same facility can vary widely. The most important factor affecting lead leaching properties of faucets appears to be the manner in which they are manufactured. Thus, different models produced by the same company are likely to leach similar (within an order of magnitude) quantities of lead. The only way individuals can ascertain the amount of lead in their drinking water is to have their water tested.

Discharge Prohibition

Prop. 65's absolute prohibition against the discharge of significant amounts of lead into drinking water is a very strong incentive to manufacturers to investigate alternatives to lead. The court has the

power to prohibit the sale, or require the recall, of any product that violates the discharge prohibition. Defendants have signalled their intention to challenge the applicability of the discharge prohibition to their products. According to an attorney for the Plumbing Manufacturers Institute,⁵⁹ the manufacturers believe that water from faucets is "not a source of drinking water" under the statute.⁶⁰

In fact, in 1988 PMI requested that the California Health and Welfare Agency issue an interpretative guideline exempting plumbing products from Prop. 65.⁶¹ The Agency denied the request and recommended that the industry avoid the use of listed chemicals in order to ensure compliance with the law.⁶² As David Roe, coauthor of Prop. 65, has said "it would be pretty silly if the law was designed to protect drinking water but failed to protect it 6 inches from the glass."⁶³

Warning Requirement

In addition to the prohibition against discharging lead into drinking water is Prop. 65's requirement that companies warn individuals exposed to significant amounts of lead through use of their product. According to the statute, warnings "may be provided by general methods such as labels on consumer products, inclusion of notices in mailings to water customers, posting of notices, placing notices in public news media, and the like, provided that the warning accomplished is clear and reasonable."⁶⁴ In fact, several of the Defendants do provide some form of warning with at least some of their products although the parties and the Attorney General contend that the warnings are inadequate both in content and method of delivery. Of the products tested for the lawsuit, the only warning notices found were inside of the product package. By putting the warning inside the package, the manufacturers are sidestepping one of the main goals of Prop. 65: to protect public

health through informed consumer choice.⁶⁵ A warning on the outside of the package alone is not sufficient. With most consumer products, the person purchasing the product is the one who will eventually use it. In contrast, a faucet is often purchased by a contractor who then installs it. The warning in this case may not be seen by the ultimate user of the product. Plaintiffs propose a warning which would stay on the product itself. This label would not only include a warning about lead exposure, but inform the consumer of steps that can be taken to reduce exposure, including purging the faucet (described below).

For the companies that provided no warning at all, Plaintiffs have filed a motion for a preliminary injunction.⁶⁶ The motion asks the court to bar the sale of these products if Defendants continue to fail to supply a sufficient warning.

Goals of the Lead Faucet Lawsuit: What Manufacturers Can Do

The primary goal of the lawsuit is to require the manufacturers of faucets to remove the lead from their products. Researchers are investigating a variety of options. For instance, alloys without lead are available and currently used for other plumbing parts.⁶⁷ Plastic faucets, while leaching small, detectable amounts of lead, leach significantly less than most brass faucets tested.⁶⁸ In addition, methods are currently being investigated to either pre-cleanse the lead from the interior surface or to coat the inside of the fixture with a protective substance. This method would allow manufacturers to sell current models after eliminating the lead hazard.⁶⁹ Since the filing of the suit, signs have appeared in a few Bay Area stores proclaiming a particular product to be "lead-free," but at this time no data has been received by the Plaintiffs to prove this contention.⁷⁰

There will certainly be some lag time between reaching a settlement with the

manufacturers and lead-safe products actually becoming available in stores. Until leaded faucets have been replaced with safe alternatives, Plaintiffs have demanded an education program for the public, including information about the problem, how to have drinking water tested for lead, and steps that can be taken to reduce lead levels in drinking water. Plaintiffs also intend to demand proper interim warnings on the product package and the product itself which would provide similar information.

Recommendations for Reducing Lead Exposure from Faucets:

What Consumers Can Do

The ideal solution to the risk of lead from faucets is to replace lead-leaching faucets currently in use with a lead free alternative. Meanwhile, there are some simple, immediate measures that consumers can take to protect themselves from lead leaching from currently installed faucets:

- 1.) Have children tested for elevated lead levels. Local health departments provide low-cost testing for lead.
- 2.) Turn the faucet on for 60 seconds before using water for drinking or cooking. Purge water can be used for plants or washing dishes. To conserve water, purge faucet once, then fill a pitcher for drinking and cooking. Purging for 60 seconds will reduce the amount of lead leached from the faucet.⁷¹
- 3.) Have drinking water tested for lead. The best way to determine whether an installed faucet is leaching lead is to have the water tested. Simple, inexpensive kits are available for testing household drinking water. Results from these tests will also help determine if a household water line contains other sources of lead, such as lead solder.⁷²
- 4.) Install a water purification device at the end of the faucet. Some water purification devices are available which remove lead, though most do not. Consumers should read

the product description carefully to confirm that the device will remove lead from tap water.⁷³

Ms. Duncan serves as the Staff Scientist for the Environmental Law Foundation in Oakland, California. She investigates potential Proposition 65 cases and provides technical assistance to communities exposed

to toxic chemicals. Ms. Duncan was responsible for overseeing the investigation for the lawsuit discussed in this article, Natural Resources Defense Council and Environmental Law Foundation v. Price Pfister, Inc. et al. She has a Masters degree in chemistry from the University of California at Berkeley and a Bachelors degree in chemistry from Wellesley College.

ENDNOTES

1. Natural Resources Defense Council and Environmental Law Foundation v. Price Pfister, Inc. et al., San Francisco Superior Court No. 948024 and People v. American Standard et al., San Francisco Superior Court No. 948017.
2. Cal. Health and Safety Code §§ 25249.5-25249.13, 25180.7, 25189.5(d), 25192 (West 1988).
3. Paul Jacobs, Prop. 65 Backers Fear Deukmejian Cave-In on Toxics, Los Angeles Times Feb. 18, 1987 at Metro 3.
4. Letter from David Roe, Senior Attorney at the Environmental Defense Fund and coauthor of the initiative, to Herschel E. Griffin.
5. Cal. Health & Safety Code § 25249.8 (West 1988).
6. Cal. Health & Safety Code § 25249.5 (West 1988).
7. Cal. Health & Safety Code § 25249.6 (West 1988).
8. Cal. Health & Safety Code § 25249.7(c), § 25249.7(d) (West 1988).
9. Cal. Health & Safety Code § 25249.7(b) (West 1988).
10. See, for example, the Toxics Substances Control Act.
11. David Roe, California Law has a Built-In Toxin Alarm, Wall Street Journal, April 22, 1988.
12. Cal. Health & Safety Code § 25249.11(d) (West 1988).
13. Cal. Health & Safety Code § 25249.6 (West 1988).
14. Elliot Diringer, Liquid Paper to Drop Carcinogenic Chemical, San Francisco Chronicle, September 29, 1989.
15. Advertisement, The Gillette Company, 1989.
16. See *supra* note 8.
17. Agency for Toxic Substances and Disease Registry, The Nature and Extent of Lead Poisoning in Children in the U.S.: A Report to Congress, 4 (1988). [Hereafter cited as ATSDR (1988)].
18. Micrograms per deciliter is a unit of concentration indicating the number of micrograms (10⁻⁹ grams) of lead in one deciliter (one tenth of a liter) of blood.
19. H.L. Needleman and P.J. Landrigan, The Health Effects of Low Level Exposure to Lead, Ann. Rev. Public Health, 2:277 to 2-298 (1981). [Hereafter cited as Needleman (1981)].
20. 56 Fed. Reg. 26,467 (1991).
21. Centers for Disease Control, Preventing Lead Poisoning in Young Children, October 1991. [Hereafter cited as CDC (1991)].
22. ATSDR (1988), 12.
23. Conversation with Dr. Richard Maas, Environmental Quality Institute, University of North Carolina at Asheville.
24. "First draw" water is the first portion removed from the tap in the morning. This water generally contains the highest concentration of lead, due to the extended length of time the water is in contact with the faucet.
25. R.G. Lee, W.C. Becker, & D.W. Collins, Lead at the Tap: Sources and Control, JAWWA, July 1989, 52-62. [Hereafter cited as Lee, et. al (1989)].
26. There is no method for determining how much lead a particular faucet leaches short of testing it. There are several opposing factors which can contribute to the level of lead actual leached by a faucet. For instance, while older faucets may have been manufactured using more lead, lead levels inside the faucet can decrease with time.
27. Hereafter faucets and instant hot water dispensers will be referred to as "faucets."
28. R.P. Maas, S.C. Patch, B.T. Peek, & G.M. Brown, Standardized Lead Leaching Characteristics of Twenty-One Models of New Faucet Fixtures and Instant Hot Water Dispensers, UNC-Asheville Environmental Quality Institute, Asheville, North Carolina, Technical Report 92-007, October 1992.
29. One product, a plastic faucet, leached detectable quantities of lead which may be below the Proposition 65 level depending on the method used for calculating the lead level.
30. Needleman (1981).
31. *Id.*
32. *Id.*
33. CDC (1991).
34. ATSDR (1988) at I-5.
35. *Id.* at I-21.
36. CDC (1991).
37. Needleman (1981).
38. *Id.*

39. Id.
40. CDC (1991).
41. CDC (1991).
42. 42 U.S.C. § 4822 (1992).
43. Tom Yulsman, Lead Hazards at Home, N.Y. Times, Apr. 4, 1991 at Good Health 28.
44. Cal. Code. Regs. tit. 22, § 22532 (1992).
45. Safe Drinking Water Act Amendments, 42. U.S.C. 300(g)-6.
46. Id. at 300(g)-6(d)(2).
47. See supra note 2.
48. Badenell, et al. v. Zurn Industries Inc. Civ. No. 92-2993 (KN) KX (filed 1992).
49. People v. Wedgewood.
50. People v. Baccarat, et al., No. 932292 (San Francisco Super. Ct., filed May 16, 1991) and Mangini v. Waterford, et al., No. 931884 (San Francisco Super. Ct., filed May 3, 1991).
51. People v. Gallo.
52. Cal. Code. Regs. tit. 22, § 12201(f) (1992).
53. Cal. Code. Regs. tit. 22, § 12805(a) (1992).
54. Cal. Health & Safety Code § 25245.10 (West 1988).
55. See supra note 28.
56. Depending upon the make and model, and who is performing the installation, up to 50% of the faucets sold are purchased by plumbers, contractors, and others who are not the ultimate consumers.
57. NSF-6 1 Section 8 & Section 9.
58. To compare the results in micrograms/liter to micrograms/day, assume that the average person drinks one liter of water per day. A number of assumptions are involved in the actual calculation of the results in Figure 1, some of which are a source of disagreement between the parties in the case. The specific technical issues of the case are too numerous for discussion here.
59. PMI, an industry group which is not named in the suit but has been involved in settlement negotiations.
60. Dennis McQuaid of Keck, Mahin & Cate as quoted in Advocates and AG Tap Prop. 65 to Term Water Faucets a Hazard, San Francisco Daily Journal, Dec. 16, 1992.
61. Letter from Robin Grover and William Ives of Keck, Mahin & Cate to Thomas E. Warriner, Undersecretary and General Counsel, California Health and Welfare Agency, August 30, 1988.
62. Letter from Steven Book, Science Advisor to the Secretary, California Health and Welfare Agency to Robin Grover of Keck, Mahin & Cate, December 1, 1988.
63. Id.
64. Cal. Health & Safety Code § 25249.11(f) (West 1988).
65. Washington Post, California Uses 'Legal Judo' on Toxics, July 30, 1991.
66. Memorandum of Points and Authorities in Support of Plaintiffs' Motion for Preliminary Injunction, Natural Resources Defense Council and Environmental Law Foundation v. Price Pfister, Inc. et al., No. 948024.
67. R.P. Maas, S.C. Patch, B.T. Peek, and G.M. Brown, A Determination of the Lead Leaching Characteristics of Selected Models of Residential Faucet Fixtures, Dec. 1991.
68. See supra note 28.
69. Conversation with Mark Henshall, EPA, June 7, 1992.
70. Conversation with Robert Thomas, investigator, California Attorney General's office.
71. CDC (1991).
72. Kits are available from the Environmental Law Foundation's Get the Lead Out! lead testing project. Interested parties can call 510/208-4557.
73. CDC (1991).