

ACTIONS REQUESTED

Pursuant to the right to petition the government clause contained in the First Amendment of the United States Constitution,¹ the Administrative Procedure Act,² and the Occupation Safety and Health Administration regulations,³ Petitioners submit this petition for rulemaking under the authority of 15 U.S.C. § 2057 to request the US Occupation Safety and Health Administration (OSHA) undertake the following action: Issue a regulation banning the use of bisphenol A (BPA) in all thermal paper cash register receipt products (receipts).

PETITIONERS

The Alliance for Natural Health USA (ANH-USA) is a Washington, DC.-based nonprofit located at 1350 Connecticut Avenue, NW, Fifth floor, Washington, DC, 20036. ANH-USA⁴ is part of an international organization dedicated to promoting sustainable health and freedom of choice in healthcare through good science and good law. We protect the right of natural health practitioners to practice and the right of consumers to choose the healthcare options they prefer. Since 1992, we have worked to shift the medical paradigm from an exclusive focus on surgery, drugs, and other conventional techniques to an “integrative” approach incorporating food, dietary supplements, and

¹ “Congress shall make no law...abridging...the right of the people...to petition Government for a redress of grievances.” U.S.Const., amend. I.

² 5 U.S.C. § 553 (e) (2009).

³ 29 C.F.R. § 1910.3(a).

⁴ ANH-USA was established as the American Preventive Medical Association (APMA) in 1992 and later changed its name to the American Association for Health Freedom (AAHF). In 2009, AAHF merged with the Alliance for Natural Health, becoming an international organization with offices in the UK (ANH International) and the US. (ANH-USA).

lifestyle changes, including access to an environment free from toxic contaminants such as BPA. This is the way to improve health and extend lives while reducing the costs of healthcare back to a sustainable level.

INTRODUCTION

Bisphenol A, commonly abbreviated as BPA, is an industrial chemical compound used to make polycarbonate plastic food and beverage containers, and is the base chemical (monomer) in the resin lining of cans and dental sealants. It also is found in thermal paper used for receipts as well as a wide range of other common household products.

Certain uses of BPA are subject to premarket approval by FDA as indirect food additives or food contact substances, including reusable polycarbonate water and baby bottles and epoxy resins, which act as a protective lining on the inside of metal-based food and beverage cans. The original approvals were issued under FDA's food additive regulations and date from the 1960s; however, based on more recent studies, FDA now has concerns about the potential effects of BPA on the brain, behavior, and prostate gland in fetuses, infants, and young children.⁵ Multiple petitions have been submitted to the FDA to have BPA curtailed or removed from the substances within FDA's regulatory purview.

Refusing to wait for FDA to institute a complete ban, state and local bans of the polycarbonate and epoxy resin forms of BPA have either already been implemented or are underway. Many countries have implemented similar bans (see Appendix).

⁵ U.S. Food and Drug Administration. "Update on Bisphenol A for Use in Food Contact Applications: January 2010," Accessed January 15 2010. <http://www.fda.gov/newsevents/publichealthfocus/ucm197739.htm>.

While overwhelming research shows the dangers of BPA, and extensive action has been taken to address exposure in the polycarbonate form, only recently has research been conducted to assess the extent to which receipts provide an equal or greater concern due to people's much greater exposure to them. Findings published by the Environmental Working Group (EWG) on July 27, 2010, confirmed that contaminated receipts were between 0.8 to nearly 3.0 percent pure BPA by weight, some of which easily wiped off with a damp cloth, indicating that receipts may be our most significant form of exposure to BPA.⁶ A new study conducted by John C. Warner and others, published in *Green Chemistry Letters and Reviews* on July 28, 2010, showed similar concern. Analyzing ten randomly collected receipts in Boston, Warner found that "several receipts contained no detectable BPA, but where quantified, BPA was found to vary from 3 to 19 mg per 12-inch receipt," highlighting an additional potential source of BPA exposure.⁷

BPA is an endocrine disruptor, which can mimic the body's own hormones and lead to negative health effects.^{8 9 10 11} Early development appears to be the period of

⁶ David Andrew, Jane Houlihan and Sonya Lunder, "BPA in Store Receipts," *Environmental Working Group* (July 22, 2010), <http://www.ewg.org/bpa-in-store-receipts>.

⁷ Ted Mendum, Emily Stoler, Helen VanBenschoten and John C Warner, "Concentration of Bisphenol A in Thermal Paper," *Green Chemistry Letters and Reviews* 4 (March 2011): 81–86, doi: 10.1080/17518253.2010.502908.

⁸ Andrea C. Gore, ed. *Endocrine-Disrupting Chemicals: From Basic Research to Clinical Practice* (Totowa, NJ: Humana Press, 2007).

⁹ J.C. O'Connor and R.E. Chaplin, "Critical Evaluation of Observed Adverse Effects of Endocrine Active Substances on Reproduction and Development, the Immune System, and the Nervous System" *Pure Applied Chemistry* 75 (Nov – Dec 2003): 2099–2123. doi:10.1351/pac200375112099.

¹⁰ Hiroyuki Okada, Takatoshi Tokunaga, Xiahui Liu, Sayaka Takayanagi, Ayami Matsushima, and Yasuyuki Shimohigashi, "Direct Evidence Revealing Structural Elements Essential for the High Binding Ability of Bisphenol A to Human Estrogen-Related Receptor-Gamma". *Environmental Health Perspectives* 116, No.1 (Jan 2008): 32–38, doi:10.1289/ehp.10587.

¹¹ Frederick S. vom Saal and John Peterson Myers, "Bisphenol A and Risk of Metabolic Disorders". *Journal of the American Medical Association* 300 no. 11 (Sept 2008): 1353–1355, doi:10.1001/jama.300.11.1353.

greatest sensitivity to its effects.¹² Among other health areas of concern, a significant relationship has been established between urine concentrations of BPA and cardiovascular disease, type 2 diabetes, and liver enzyme abnormalities in a representative sample of the adult US population.¹³

The science shows that BPA presents an unreasonable health risk to retail workers, and further, that BPA from receipts can be absorbed deeply into the skin,¹⁴ increasing the likelihood that it will also be absorbed by the bloodstream. Based on these facts and the latest research showing high concentrations of BPA in receipts, the Petitioner respectfully requests that the OSHA implement a full ban on the use of BPA in receipts.

STATEMENT OF LEGAL GROUNDS

Pursuant to 29 U.S.C Section 655(c):

(1) The Secretary shall provide, without regard to the requirements of chapter 5 of title 5, for an emergency temporary standard to take immediate effect upon publication in the federal Register if he determines

(A) that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and

(B) that such emergency standard is necessary to protect employees from such danger.

¹² Health Canada. "Draft Screening Assessment for The Challenge Phenol, 4,4' -(1-methylethylidene)bis- (Bisphenol A) Chemical Abstracts Service Registry Number 80-05-7," Accessed on 12 November 2010. http://www.ec.gc.ca/substances/ese/eng/challenge/batch2/batch2_80-05-7.cfm

¹³ Frederick S. vom Saal and John Peterson Myers, "Bisphenol A and Risk of Metabolic Disorders". *Journal of the American Medical Association* 300 No.11 (Sept 2008): 1353–1355, doi:10.1001/jama.300.11.1353.

¹⁴ Sarah Biedermann, Patrik Tschudin and Koni Grob, "Transfer of Bisphenol A from Thermal Printer Paper to the Skin," *Analytical and Bioanalytical Chemistry* 398 No.1 (Sept 2010): 27–264, doi 10.1007/s00216-010-3936-9. See also: Nisrin Kaddar, Catherine Harthé, Henri Déchaud, Elizabeth Mappus and Michel Pugeat, "Cutaneous Penetration of Bisphenol A in Pig Skin," *Journal of Toxicology and Environmental Health*, 71 No.8 (2008): 471-473, <http://www.ncbi.nlm.nih.gov/pubmed/18338280>.

(A) Employees in the retail industry are exposed to grave danger when exposed to cash register receipts laden with BPA.

Overwhelming research suggests that BPA causes a multitude of negative health impacts. Acting like estrogen, it can interfere with normal hormone activity, and in mothers, it has been shown to cause changes that resemble gestational diabetes.¹⁵ Even at low levels of exposure, BPA negatively influences metabolic function during and after pregnancy, setting the stage for long-term gestational diabetes in mothers and for the development of diabetes in their children.¹⁶ Additional studies confirm that active BPA and its inactive metabolite freely cross the placenta from a pregnant mother to the fetus, confirming that exposures pre-birth are a bigger risk to the developing fetus than previously thought.¹⁷

BPA has also been shown to interfere with the normal development and function of the reproductive system. Rats exposed to BPA early in life later developed symptoms resembling polycystic ovarian syndrome, a leading cause of infertility in women.¹⁸ And a study of monkeys exposed to low levels of BPA in the womb showed BPA caused infant male monkeys to behave more like infant females.¹⁹

¹⁵ Paloma Alonso-Magdalena, Elaine Vieira, Sergi Soriano, Lorena Menes, Deborah Burks, Ivan Quesada and Angel Nadal, "Bisphenol-A Exposure During Pregnancy Disrupts Glucose Homeostasis in Mothers and Adult Male Offspring," *Environmental Health Perspectives* 118 No.9 (Sep 2010): 1243–1250, doi:10.1289/ehp.1001993.

¹⁶ Ibid.

¹⁷ Miyu Nishikawa, Hidetomo Iwano, Risa Yanagisawa, Nanako Koike, Hiroki Inoue and Hiroshi Yokota, "Placental Transfer of Conjugated Bisphenol A and Subsequent Reactivation in the Rat Fetus," *Environmental Health Perspectives* 118 (Sep 2010): 1196-1203, doi: 10.1289/ehp.0901575. See also: Biju Balakrishnan, Kimiora Henare, Eric B. Thorstensen, Anna P. Ponnampalam and Murray D. Mitchell, "Transfer of Bisphenol A Across the Human Placenta," *American Journal of Obstetrics and Gynecology* (January 2010): 202–393, doi: 10.1016/j.ajog.2010.01.025

¹⁸ Marina Fernandez, Nadia Bourguignon, Victoria Lux-Lantos and Carlos Libertun, "Neonatal Exposure to Bisphenol A and Reproductive and Endocrine Alterations Resembling the Polycystic Ovarian Syndrome in Adult Rats," *Environmental Health Perspectives* (Sep 2010): 1217–1222, <http://www.ncbi.nlm.nih.gov/pubmed/20413367>.

¹⁹ Akiko Nakagami, Takayuki Negishi, Katsuyoshi Kawasaki, Noritaka Imai, Yoshiro Nishida, Toshio Ihara, Yoichiro Kuroda, Yasuhiro Yoshikawa and Takamasa Koyama, "Alterations in Male Infant Behaviors Towards its Mother by

BPA exposure influences protein expressed in the mammary gland in ways consistent with cancer formation;²⁰ impacts thyroid and reproductive hormone levels,²¹ and has been shown to slow the rate of tadpole development;²² alters brain function, affecting memory and producing anxiety;²³ epigenetically changes gene expression, that is, affects the on/off markers in an important gene that guides uterus development;²⁴ and, even in very low concentrations, has been shown to cause cellular damage and death.²⁵

EWG commissioned the University of Missouri Division of Biological Sciences laboratory to conduct an investigation of BPA in receipts collected from major retailers, including McDonald's, CVS, KFC, Walmart, Whole Foods, Safeway, Target, Starbucks, Bank of America ATMs, and the US Postal Service. The research published by the EWG found substantial amounts of BPA on 16 of 36 receipts at an average amount of 1.9 percent by weight, and a range of 0.8 to 2.8 percent.²⁶ The laboratory wiped each receipt with damp laboratory paper, which “easily picked up a portion of the receipts’ BPA

Prenatal Exposure to Bisphenol A in Cynomolgus Monkeys (*Macaca Fascicularis*) During Early Suckling Period” *Psychoneuroendocrinology* (Sep 2009): 1189–1197, doi:10.1016/j.psyneuen.2009.03.005.

²⁰ Angela M. Betancourt, James A. Mobley, Jose Russo and Coral A. Lamartiniere, “Proteomic Analysis in Mammary Glands of Rat Offspring Exposed in Utero to Bisphenol A,” *Journal of Proteomics* 73 (April 2010): 1241–1253, doi:10.1016/j.jprot.2010.02.020.

²¹ John D. Meeker, Antonia M. Calafat and Russ Hauser, “Urinary Bisphenol A Concentrations in Relation to Serum Thyroid and Reproductive Hormone Levels in Men from an Infertility Clinic,” *Environmental Science and Technology* (Feb 2010): 1458-1463, doi: 10.1021/es9028292

²² Rachel A. Heimeier, Biswajit Das, Daniel R. Buchholz and Yun-Bo Shi, “The Xenoestrogen Bisphenol A Inhibits Postembryonic Vertebrate Development by Antagonizing Gene Regulation by Thyroid Hormone,” *Endocrinology* (Feb 2009): 2964–2973, doi:10.1210/en.2008-1503.

²³ Yu-Hua Tian, Joung-Hee Baek, Seok-Yong Lee and Choon-Gon Jang, “Prenatal and Postnatal Exposure to Bisphenol A Induces Anxiolytic Behaviors and Cognitive Deficits in Mice,” *Synapse* 64 (June 2010): 432-439. doi:10.1002/syn.20746.

²⁴ Jason Bromer, Yuping Zhou, Melissa B. Taylor, Leo Doherty and Hugh S. Taylor, “Bisphenol-A Exposure in Utero Leads to Epigenetic Alterations in the Developmental Programming of Uterine Estrogen Response,” *The FASEB Journal* (July 2010), doi: 10.1096/fj.09-140533.

²⁵ Nora Benachour and Aziz Aris, “Toxic Effects of Low Doses of Bisphenol-A on Human Placental Cells,” *Toxicology and Applied Pharmacology* 241 (December 2009): 322–328, doi:10.1016/j.taap.2009.09.005.

²⁶ David Andrew, Jane Houlihan and Sonya Lunder, “BPA in Store Receipts,” *Environmental Working Group* (July 22, 2010), <http://www.ewg.org/bpa-in-store-receipts>.

coating, indicating that the chemical would likely stick to the skin of anyone who handled them.”²⁷ Specifically, between 0.7 and 3.8 percent of the BPA on a receipt could be wiped off with a lightly moistened wipe.²⁸ Further, the EWG publication states that “*those working in retail industries have more BPA in their bodies than the average adult, and that frequent exposure to ‘relative large amounts’ of BPA in cash register receipts are of greater concern to retail workers*” (italics ours).

Additional research has shown detectable BPA varied from 3 to 19 mg per twelve-inch receipt, in eighty percent of receipts collected in the Boston area.²⁹

An understanding of the form of BPA in receipts is critical to appreciating the implications from this form of exposure. In the polycarbonate form, which has been legislatively curtailed or banned in many localities, states, and nationals (see Appendix), the hard plastic must be heated or abrasively cleaned to release small quantities of the toxic chemical; however, in receipts, the BPA is in the form of a free, unreacted molecule, an unstable form. A helpful analogy, provided by John Warner of Warner Babcock, is to imagine a strand of pearls on a table. One might expect it to remain relatively stable. The strand form is representative of the polycarbonate form of BPA. Although dangerous, it is somewhat contained. Now think of those same pearls without the strand connecting them and holding them in place. The loose pearl depiction represents the unstable form of BPA found in receipts. It is dangerous and less contained, and as indicated by EWG research, rubs off easily by the touch. Please note that the polycarbonate form is also extremely

²⁷ Ibid.

²⁸ Ibid.

²⁹ Ted Mendum, Emily Stoler, Helen VanBenschoten and John C Warner, “Concentration of Bisphenol A in Thermal Paper,” *Green Chemistry Letters and Reviews* 4 (March 2011): 81–86, doi: 10.1080/17518253.2010.502908.

toxic and necessitates a ban in its own right, and parallel actions have been initiated to ensure its removal from plastic bottles and children's dental devices.

The total mass of BPA on a receipt was determined to be 250 to 1,000 times greater than the amount of BPA typically found in a can of food or baby formula or the amount that leaches out of BPA-laden baby bottles,³⁰ and research has shown that BPA transferred from receipts to the skin can penetrate so deeply that it cannot be washed off.³¹ As pointed out by EWG, this raises concern that BPA from receipts can be absorbed through the skin's lower layers directly into the bloodstream.³² Further, recent research has shown that BPA measured in people's urine is inconsistent with current ideas about exposure to the polycarbonate form in plastics.³³ If the main source of BPA is food and drink containers, then levels in the body and the urine should decrease the longer the time from the last meal; however, scientists have found that levels did not decrease as quickly as expected after removing polycarbonate BPA exposures, suggesting there is another source of BPA exposure.³⁴ The research indicates that receipts are potentially a significant source of this additional exposure and therefore must be banned.

³⁰ David Andrew, Jane Houlihan and Sonya Lunder, "BPA in Store Receipts," *Environmental Working Group* (July 22, 2010), <http://www.ewg.org/bpa-in-store-receipts>.

³¹ Sarah Biedermann, Patrik Tschudin and Koni Grob, "Transfer of Bisphenol A from Thermal Printer Paper to the Skin," *Analytical and Bioanalytical Chemistry* 398 No.1 (Sept 2010): 27–264, doi 10.1007/s00216-010-3936-9. See also: Nisrin Kaddar, Catherine Harthé, Henri Déchaud, Elizabeth Mappus and Michel Pugeat, "Cutaneous Penetration of Bisphenol A in Pig Skin," *Journal of Toxicology and Environmental Health*, 71 No.8 (2008): 471-473, <http://www.ncbi.nlm.nih.gov/pubmed/18338280>.

³² "David Andrew, Jane Houlihan and Sonya Lunder, "BPA in Store Receipts," *Environmental Working Group* (July 22, 2010), <http://www.ewg.org/bpa-in-store-receipts>.

³³ Richard W. Stahlhut, Wade V. Welshons and Shanna H. Swan, "Bisphenol A Data in NHANES Suggest Longer than Expected Half-Life, Substantial Non-Food Exposure, or Both," *Environmental Health Perspectives* 117 (Jan 28): 784-789, doi:10.1289/ehp.0800376.

³⁴ Ibid.

The EWG, in their research, detected substantial amounts of BPA on 16 out of 36 receipts.³⁵ Most importantly, this indicates that 20 out of 36 receipts did not contain substantial amounts of BPA and further, that safer alternatives are competitively priced, as evidenced by their market share. Additional research by Mendum et al. found two of ten receipts studied to be completely free of BPA.³⁶ One such safer alternative is Appleton Papers, Inc., which does not use BPA in any of its carbonless papers.

OSHA is charged with protecting employees from unreasonable risks of serious injury. BPA has been found to be in a significant amount of receipts at toxic levels, is handled by retail workers on a daily basis; and to leave it in the market would be to directly contravene the OSHA mandate.

(B) That such emergency standard is necessary to protect employees from such danger resulting from exposure to cash register receipts laden with BPA.

Permissible exposure standards are sometimes applied to hazardous products in lieu of a complete ban. Such standards are appropriate where care can be taken to avoid contact with the hazardous products through alternative means of handling or prominent warning labels.

However, this is impossible for retail workers. Retail workers must handle cash register receipts on a day-to-day basis, even if it is BPA-laden, in order to properly fulfill the essential functions of their job.

³⁵ David Andrew, Jane Houlihan and Sonya Lunder, "BPA in Store Receipts," *Environmental Working Group* (July 22, 2010), <http://www.ewg.org/bpa-in-store-receipts>.

³⁶ Ted Mendum, Emily Stoler, Helen VanBenschoten and John C Warner, "Concentration of Bisphenol A in Thermal Paper," *Green Chemistry Letters and Reviews* 4 (March 2011): 81–86, doi: 10.1080/17518253.2010.502908.

There exists an additional possibility that the OSHA might reduce the level of BPA per receipt to a level deemed acceptable. This approach is impracticable because, as discussed above, even very low levels of BPA have been found to cause adverse health impacts. Additionally, such an approach could not account for sensitive populations, including those that work in the restaurant and retail industries and deal with receipts consistently throughout the day, every day. The EWG found 28% more BPA in the bodies of 195 people who reported working in retail industries, and four of the five occupations with the highest levels of BPA measurements come into contact with receipts.³⁷

With cost competitive alternatives already in use in roughly between 20% and 50% of the market, the logical solution is to apply a BPA-free standard across the board.

CONCLUSION

BPA is distributed in commerce in significant levels in at least 50 percent of all receipts. A rule is reasonably necessary to eliminate the risk of injury, and failure of the OSHA to initiate the rulemaking proceeding requested would expose retail workers to grave danger.

No feasible safety standard under this Act would adequately protect retail workers from the unreasonable risk of injury associated with BPA in receipts. Therefore, petitioners submit this petition for rulemaking under the authority of 29 U.S.C Section 655(c):

³⁷ David Andrew, Jane Houlihan and Sonya Lunder, "BPA in Store Receipts," *Environmental Working Group* (July 22, 2010), <http://www.ewg.org/bpa-in-store-receipts>.

(1) The Secretary shall provide, without regard to the requirements of chapter 5 of title 5, for an emergency temporary standard to take immediate effect upon publication in the federal Register if he determines

(A) that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and

(B) that such emergency standard is necessary to protect employees from such danger.

Pursuant to 29 U.S.C Section 655(c) stated above, Petitioners have provided evidence that employees are exposed to grave danger from handling cash register receipts laden with BPA and request the OSHA to issue an emergency temporary standard banning BPA from all cash register receipts until. This standard is necessary until the OSHA can issue a proper rulemaking banning BPA from cash register receipts.

APPENDIX

National Bans

Canada was the first country to issue a BPA ban for baby bottles in April 2008.³⁸ Denmark became the first European country to issue its own temporary ban on BPA (with a resolution to pass a permanent one) in food containers for children under 3 in March 2010³⁹ and France followed suit in May 2010 with a ban on BPA in baby bottles.⁴⁰ Most recently China banned BPA in baby bottles starting June 1, 2011.⁴¹

State Bans

Connecticut banned BPA from all thermal cash register receipts, and required the Chemical Innovations Institute to develop an annual list of chemicals of high toxic concern on June 8, 2011.⁴² This follows an existing ban on BPA from infant formula and baby food containers as well as all reusable food and beverage containers in June of 2009.⁴³ Minnesota banned BPA in all children's products in May 2009,⁴⁴ and Maryland

³⁸ Lyndsey Layton and Christopher Lee. "Canada Bans BPA From Baby Bottles." *Washington Post*, April 19 2008. Accessed April 20 2010. <http://www.washingtonpost.com/wp-dyn/content/article/2008/04/18/AR2008041803036.html>.

³⁹ Rory Harrington. "Denmark Bans Bisphenol A in Food Packaging for Young Children." *Food Production Daily*, March 30 2010. Accessed April 20 2010. <http://www.foodproductiondaily.com/Quality-Safety/Denmark-bans-bisphenol-A-in-food-packaging-for-young-children>.

⁴⁰ Helena Bottemiller. "France Bans BPA in Baby Bottles." *Food Safety News*, May 19 2010. Accessed May 21 2010. <http://www.foodsafetynews.com/2010/05/france-bans-bpa-in-baby-bottles/>.

⁴¹ Chen Yingqi. "China bans BPA in babies' bottles." *China Daily*, June 1, 2011. Accessed June 1, 2011. http://www.chinadaily.com.cn/china/2011-06/01/content_12616422.htm

⁴² "Bill Status ." *Connecticut General Assembly*. Accessed 20 June 2011.. <<http://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill>>.

⁴³ "Connecticut Bans BPA in All Infant Formula and Baby Food Containers", *PackagingLaw.com*, Jul 21, 2009. Accessed April 20 2010. http://www.packaginglaw.com/2904_.shtml.

⁴⁴ Bob Von Sternberg. "State bans chemical in baby bottle." *Minneapolis St Paul Star Tribune*, May 8 2009. Accessed April 20 2010. <http://www.startribune.com/lifestyle/health/44586267.html>.

followed with a ban for children's products in February 2010,⁴⁵ and in containers of infant formula on May 10, 2011.⁴⁶ Wisconsin and Washington state quickly followed in March 2010 with their own bans for children's products.^{47 48} Vermont passed a ban on BPA in children's products and all reusable food containers in May 2010,⁴⁹ and New York issued their ban in June 2010 applying to children's products.⁵⁰ Most recently Delaware passed a bill to prohibit BPA in certain children's products in June 2011.

Local Bans

Suffolk County, NY, issued a ban on BPA in children's products in March 2010, and Chicago issued a ban on BPA in children's products in May 2010.⁵¹

Bans Proposed or Underway

The California legislature is currently considering AB 1319 to ban BPA in children's toys and childcare articles. It has already passed the Assembly and is now in the Senate.⁵² Delaware is also considering a bill to prohibit BPA in certain children's

⁴⁵ "Deadly Chemical Found in Baby Bottles Banned in Maryland." *Fox News*. July 1 2010. Accessed July 1 2010. <http://www.foxnews.com/story/0,2933,595727,00.html>

⁴⁶ "Bill Info-2011 Regular Session-HB 4." *Maryland General Assembly Home Page*. Accessed June 20 2011. <http://mlis.state.md.us/2011RS/billfile/hb0004.htm>.

⁴⁷ "Wisconsin among first states to enact BPA ban." *Leader Telegram*, March 3 2010. Accessed March 4 2010. http://www.leadertelegram.com/news/daily_updates/article_3a9e7d41-bbf8-5330-8375-4f64ff520243.html.

⁴⁸ "Washington State Latest to Restrict BPA." *News Inferno*, March 23 2010. Accessed April 20 2010. <http://www.newsinferno.com/archives/19324>.

⁴⁹ Mike Verepej. "Vermont Passes Strict BPA Ban." *Plastics News*, May 24 2010. Accessed May 25 2010. <http://plasticsnews.com/headlines2.html?id=18685>.

⁵⁰ Maria Adock. "New York State Passes BPA Ban." *Washington Examiner*, June 27 2010. Accessed June 28 2010. <http://www.examiner.com/x-19956-Long-Island-New-Moms-Examiner~y2010m6d27-New-York-State-Passes-BPA-Ban>

⁵¹ Karen A. Cullotta. "Chicago Bans Bottles With BPA Plastic." *New York Times*, May 13 2009. Accessed May 14 2009. <http://www.nytimes.com/2009/05/14/us/14plastic.html>.

⁵² "AB 1319 Assembly Bill - Amended." *Official California Legislative Information*. 10 May 2011. Accessed 20 June 2011. http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_1301-1350/ab_1319_bill_20110510_amended_asm_v97.html.

products. The bill passed the Senate on June 8, 2011 and is now in the House.⁵³ New York recently introduced a bill, SB 4903, to ban BPA in cash register receipts.⁵⁴ According to Environmental Defence Canada, Belgium, and the UK have each introduced bills to ban BPA in food plastics, but they have not yet passed, and bills have been proposed in many more state legislatures in the US, including Hawaii, Illinois, Massachusetts, Michigan, Missouri, Montana, New Jersey, New Mexico, Oregon, Pennsylvania, Rhode Island, and Texas.⁵⁵

⁵³ "An Act to Amend Title 6 of the Delaware Code Relating to Protecting the Health of Children by Prohibiting Bisphenol-A in Products for Young Children." *Legis.deleare.gov*. Accessed 10 June 2011. [http://legis.delaware.gov/LIS/lis146.nsf/vwLegislation/SB+70/\\$file/legis.html?open](http://legis.delaware.gov/LIS/lis146.nsf/vwLegislation/SB+70/$file/legis.html?open).

⁵⁴ "Bill Search." *New York State Assembly*. Web. 20 June 2011. http://assembly.state.ny.us/leg/?default_fld=.

⁵⁵ "A Big BPA Update", *Health Defence Canada*. Accessed on June 28 2010. <http://environmentaldefencecanada.blogspot.com/2010/06/big-bpa-update.html>