CITIZENS PETITION TO THE CONSUMER PRODUCT SAFETY COMMISSION

U.S. Consumer Product Safety Commission
Office of the Secretary
4330 East West Highway
Bethesda, MD 20814-4408

ALLIANCE FOR NATURAL HEALTH USA 1350 Connecticut Avenue, NW, Fifth floor Washington, D.C. 20036 202-467-1985 Petitioners, v. CONSUMER PRODUCT SAFETY COMMISSION 4330 East West Highway Bethesda, M.D. 20814-4408	Docket Number ____

August 3, 2010

PETITION SEEKING BAN ON BISPHENOL A IN THERMAL PAPER CASH REGISTER RECEIPTS

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 Consumer Products Safety Commission's regulations,[3] Petitioners submit this petition for rulemaking under the authority of 15 U.S.C. § 2057 to request the U.S Consumer Products Safety Commission (CPSC) 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, D.C. based nonprofit located at 1350 Connecticut Avenue, NW, Fifth floor, Washington, D.C., 20036. ANH-USA[4] 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 lifestyle changes, including access to an environment free from toxic

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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 16 C.F.R. § 1051.1 – 1051.11

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 U.S. (ANH-USA).

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 used to make polycarbonate plastic and epoxy resins, along with other applications. This compound is the base chemical (monomer) used to make polycarbonate plastic food and beverage containers, the resin lining of cans, and dental sealants; it also is found in "carbonless" 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 the FDA to institute a complete ban, numerous national, state, and local bans of the polycarbonate and epoxy resin forms of BPA have either already been implemented or are underway (See Appendix).

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[5] "Update on Bisphenol A for Use in Food Contact Applications: January 2010". U.S. Food and Drug Administration. 15 January 2010. Retrieved 15 January 2010.

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 and form of exposure. Findings published by the Environmental Working Group (EWG) on July 27, 2010, confirmed that contaminated receipts were between .8 to nearly 3 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 10 randomly collected receipts in Boston, Warner found that "(s)everal 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 greatest sensitivity to its effects.[12] Among other health areas of concern, a significant relationship has been established between urine concentrations of BPA and

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[6] "BPA in Store Receipts", published July 22, 2010 on Environmental Working Group (http://www.ewg.org/bpa-in-store-receipts).

[7] Mendum, Ted , Stoler, Emily , VanBenschoten, Helen and Warner, John C. (2010) 'Concentration of bisphenol A in thermal paper', Green Chemistry Letters and Reviews, First published on: 28 July 2010 (iFirst)

[8] Gore, Andrea C. (June 8, 2007). *Endocrine-Disrupting Chemicals: From Basic Research to Clinical Practice*. Contemporary Endocrinology. Humana Press. ISBN 978-1588298300.

[9] O'Connor, JC; Chapin, RE (2003). "Critical evaluation of observed adverse effects of endocrine active substances on reproduction and development, the immune system, and the nervous system" (Full Article). *Pure Appl. Chem* **75** (11–12): 2099–2123. doi:10.1351/pac200375112099. Retrieved 2007-02-28.

[10] Okada H, Tokunaga T, Liu X, Takayanagi S, Matsushima A, Shimohigashi Y (January 2008). "Direct evidence revealing structural elements essential for the high binding ability of bisphenol A to human estrogen-related receptor-gamma". *Environ. Health Perspect.* **116** (1): 32–8. doi:10.1289/ehp.10587. PMID 18197296.

[11] vom Saal FS, Myers JP (2008). "Bisphenol A and Risk of Metabolic Disorders". *JAMA* **300** (300): 1353. doi:10.1001/jama.300.11.1353. PMID 18799451.

[12] Draft Screening Assessment for The Challenge Phenol, 4,4' -(1-methylethylidene)bis- (Bisphenol A)Chemical Abstracts Service Registry Number 80-05-7. Health Canada, 2008.

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 consumers, 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 CPSC implement a full ban on the use of BPA in receipts.

STATEMENT OF LEGAL GROUNDS

Whenever the Consumer Products Safety Commission finds that:

(1) a consumer product is being, or will be, distributed in commerce and such consumer product presents an unreasonable risk of injury; and

(2) no feasible consumer product safety standard under this Act would adequately protect the public from the unreasonable risk of injury associated with such product, the Commission may, in accordance with section 9, [15 U.S.C. § 2058], promulgate a rule declaring such product a banned hazardous product.[15]

1. Cash register receipts laden with BPA are distributed in commerce and present an unreasonable risk of injury.

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[13] vom Saal FS, Myers JP (2008). "Bisphenol A and Risk of Metabolic Disorders". *JAMA* **300** (300): 1353. doi:10.1001/jama.300.11.1353. PMID 18799451.

[14] Biedermann S, Tschudin P, Grob K. 2010. Transfer of bisphenol A from thermal printer paper to the skin. Anal Bioanal Chem. Published online: July 11, 2010. See also: Kaddar N, Harthé C, Déchaud H, Mappus E, Pugeat M. 2008. Cuteanous Penetration of Bisphenol A in Pig Skin. Journal of Toxicology and Environmental Health, Part A. 71(8):471-73.

[15] 15 U.S.C. § 2057.

Overwhelming research suggests that BPA causes a multitude of negative health impacts. Acting like estrogen, it can interfere with normal hormone activity and has been shown to cause changes in mothers that resemble gestational diabetes.[16] Even at low levels of exposure, BPA influences negatively metabolic function during and after pregnancy, setting the stage for long-term gestational diabetes in mothers and development of diabetes in their sons.[17] Additional studies confirm that active BPA and its inactive metabolite freely cross the placenta from a pregnant mother to the fetus, confirming exposures pre-birth are a bigger risk to the developing fetus than previously thought.[18]

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.[19] 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.[20]

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[16] Alonso-Magdalena, P, E Vieira, S Soriano, L Menes, D Burks, I Quesada and A Nadal. Bisphenol-A exposure during pregnancy disrupts glucose homeostasis in mothers and adult male offspring. Environmental Health Perspectives http://dx.doi.org/10.1289/ehp.1001993.

[17] Id.

[18] Nishikawa, M, H Iwano, R Yanagisawa, N Koike, H Inoue and H Yokota. 2010. **Placental transfer of conjugated bisphenol A and subsequent reactivation in the rat fetus**. Environmental Health Perspectives http://dx.doi.org/10.1289/ehp.0901575. See also: Balakrishnan, B, K Henare, EB Thorstensen, AP Ponnampalam and MD Mitchell. 2010. **Transfer of bisphenol A across the human placenta**. American Journal of Obstetrics and Gynecology 202:393e1-e7.

[19] Fernandez, M, N Bourguignon, V Lux-Lantos and C Libertun. 2010. Neonatal exposure to Bisphenol A and reproductive and endocrine alterations resembling the polycystic ovarian syndrome in adult rats. Environmental Health Perspectives http://dx.doi.org/10.1289/ehp.0901257.

[20] Nakagami A, T Negishi, K Kawasaki, N Imai, Y Nishida, T Ihara, Y Kuroda, Y Yoshikawa and T Koyama. **Alterations in male infant behaviors towards its mother by prenatal exposure to bisphenol A in cynomolgus monkeys (Macaca fascicularis) during early suckling period.** Psychoneuroendocrinology doi:10.1016/j.psyneuen.2009.03.005.

BPA influences protein expressed in the mammary glad in ways consistent with cancer formation;[21] exposure impacts thyroid and reproductive hormone levels,[22] and has been shown to slow the rate of tadpole development;[23] BPA alters brain function, expressed in memory impacts and anxiety;[24] the chemical has been found to epigenetically change gene expression, that is, to affect the on/off markers in an important gene that guides uterus development;[25] and exposure to very low concentrations of BPA has been shown to cause cellular damage and death.[26]

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 U.S. 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.[27] The laboratory wiped each receipt with damp laboratory paper, which "easily picked up a portion of the receipts' BPA coating, indicating that the chemical would likely stick to the skin of anyone who handled

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[21] Betancourt, AM, JA Mobley, J Russo and CA Lamartiniere. 2010. **Proteomic analysis in mammary glands of rat offspring exposed in utero to bisphenol A**. Journal of Proteomics http://dx.doi.org/10.1016/j.jprot.2010.02.020.

[22] Meeker, JD, AM Calafat and R Hauser. **Urinary Bisphenol A concentrations in relation to serum thyroid and reproductive hormone levels in men from an infertility clinic**. Environmental Science and Technology http://dx.doi.org/10.1021/es9028292.

[23] Heimeier, R, B Das, DR Buchholz and YB Shi. 2009. **The xenoestrogen bisphenol A inhibits postembryonic vertebrate development by antagonizing gene regulation by thyroid hormone**. Endocrinology doi:10.1210/en.2008-1503.

[24] Tian, YH, JH Baek, SY Lee and CG Jang. 2010. **Prenatal and postnatal exposure to bisphenol A induces anxiolytic behaviors and cognitive deficits in mice**. Synapse 64: 432-439. doi:10.1002/syn.20746.

[25] Bromer, JG, Y Zhou, MB Taylor, L Doherty and HS Taylor. 2010. **Bisphenol-A exposure in utero leads to epigenetic alterations in the developmental programming of uterine estrogen response**. The FASEB Journal http://dx.doi.org/10.1096/fj.09-140533.

[26] Benachour, N and A Aris. **Toxic effects of low doses of Bisphenol-A on human placental cells.** Toxicology and Applied Pharmacology doi:10.1016/j.taap.2009.09.005.

[27] "BPA in Store Receipts", published July 22, 2010 on Environmental Working Group (http://www.ewg.org/bpa-in-store-receipts).

them."[28] Specifically, between 0.7 and 3.8 percent of the BPA on a receipt could be wiped off with a lightly moistened wipe.[29]

Additional research has shown detectable BPA varied from 3 to 19 mg per 12-inch receipt in eight of ten receipts collected in the Boston area.[30]

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 local, state, and national regions (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 the 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.

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 a can of baby formula, or that which leaches from BPA-laden baby bottles,[31] and research has shown that BPA

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[28] Id.
[29] Id.
[30] Mendum, Ted , Stoler, Emily , VanBenschoten, Helen and Warner, John C. (2010) 'Concentration of bisphenol A in thermal paper', Green Chemistry Letters and Reviews, First published on: 28 July 2010 (iFirst)
[31] "BPA in Store Receipts", published July 22, 2010 on Environmental Working Group (http://www.ewg.org/bpa-in-store-receipts).

transferred from receipts to the skin can penetrate so deeply, it cannot be washed off.[32] As pointed out by EWG, this raises concern that BPA from receipts can be absorbed through the skin's lower layers directly into the blood stream.[33] 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.[34] 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 a greater source of BPA exposure.[35] The research indicates that receipts are potentially a significant source of this additional exposure and therefore must be banned. Please note that the polycarbonate form is also extremely 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 EWG, in their research, detected substantial amounts of BPA on 16 out of 36 receipts.[36] 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

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[32] Biedermann S, Tschudin P, Grob K. 2010. Transfer of bisphenol A from thermal printer paper to the skin. Anal Bioanal Chem. Published online: July 11, 2010. See also: Kaddar N, Harthé C, Déchaud H, Mappus E, Pugeat M. 2008. Cuteanous Penetration of Bisphenol A in Pig Skin. Journal of Toxicology and Environmental Health, Part A. 71(8):471-73.

[33] "BPA in Store Receipts", published July 22, 2010 on Environmental Working Group (http://www.ewg.org/bpa-in-store-receipts).

[34] Stahlhut, RW, WV Welshons and SH Swan. 2009. **Bisphenol A data in NHANES suggest longer than expected half-life, substantial non-food exposure, or both.** Environmental Health Perspectives doi:10.1289/ehp.0800376.

[35] Id.

[36] "BPA in Store Receipts", published July 22, 2010 on Environmental Working Group (http://www.ewg.org/bpa-in-store-receipts).

10 receipts studied to be completely free of BPA.[37] One such safer alternative is Appleton Papers, Inc., which does not use BPA in any of its thermal papers.

The CPSC is charged with protecting the public from unreasonable risks of serious injury. BPA has been found in a significant amount of receipts distributed in commerce, presents an unreasonable risk of injury, and to leave it in the market would be to directly contravene the CPSC mandate.

2. No feasible consumer product safety standard under this Act would adequately protect the public from the unreasonable risk of injury associated with BPA in cash register receipts.

Consumer product safety 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.

In the case of BPA in receipts, consumers have one alternative if the receipt is BPA-laden: to refuse the receipt. As a practical matter, consumers are unlikely to refuse receipts, even if prominently stamped with a warning, because of the practical implications of saving receipts for budget purposes and use in returns and exchanges.

There exists an additional possibility that the CPSC might reduce the level of BPA per receipt to a level deemed acceptable. This approach is impracticable, because, as discussed above, very low levels of BPA have been found to cause adverse health

[37] Mendum, Ted , Stoler, Emily , VanBenschoten, Helen and Warner, John C. (2010) 'Concentration of bisphenol A in thermal paper', Green Chemistry Letters and Reviews, First published on: 28 July 2010 (iFirst)

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.[38]

With cost competitive alternatives already is 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 CPSC to initiate the rulemaking proceeding requested would unreasonably expose consumers to an unreasonable risk of injury.

No feasible consumer product safety standard under this Act would adequately protect the public from the unreasonable risk of injury associated with BPA in receipts. Therefore, petitioners submit this petition for rulemaking under the authority of 15 U.S.C. § 2057 to request the CPSC issue a regulation banning the use of BPA in all cash register receipt products.

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[38] "BPA in Store Receipts", published July 22, 2010 on Environmental Working Group (http://www.ewg.org/bpa-in-store-receipts).

APPENDIX

National Bans: Canada was the first country to issue a BPA ban for baby bottles in April 2008.[39] 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 2010[40] and France followed suit in May 2010 with a ban on BPA in baby bottles.[41]

State Bans: Minnesota banned BPA in all children's products in May 2009,[42] and Connecticut banned BPA from all infant formula and baby food containers as well as all reusable food and beverage containers in June of 2009.[43] Maryland followed with a ban for children's products in February 2010,[44] and Wisconsin and Washington state quickly followed in March 2010 with their own bans for children's products.[45] [46] Vermont passed a ban on BPA in children's products and all reusable food containers in May 2010,[47] and New York issued their ban in June 2010 applying to children's products.[48]

Local Bans: Suffolk County, NY issued a ban on BPA in children's products in

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[39] "Canada Bans BPA From Baby Bottles", Washington Post, April 19 2008 http://www.washingtonpost.com/wp-dyn/content/article/2008/04/18/AR2008041803036.html

[40] "Denmark bans bisphenol A in food packaging for young children" Food Production Daily, March 30 2010 http://www.foodproductiondaily.com/Quality-Safety/Denmark-bans-bisphenol-A-in-food-packaging-for-young-children

[41] "France Bans BPA in Baby Bottles", Food Safety News, May 19 2010 http://www.foodsafetynews.com/2010/05/france-bans-bpa-in-baby-bottles/

[42] "State bans chemical in baby bottle", Minneapolis St Paul Star Tribune, May 8 2009, http://www.startribune.com/lifestyle/health/44586267.html

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

[44] "Deadly Chemical Found in Baby Bottles Banned in Maryland", July 1 2010, http://www.foxnews.com/story/0,2933,595727,00.html

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

[46] "Washington State Latest to Restrict BPA", News Inferno, March 23 2010, http://www.newsinferno.com/archives/19324

[47] "Vermont passes strict BPA ban", Plastics News, May 24 2010, http://plasticsnews.com/headlines2.html?id=18685

[48] "New York State Passes BPA Ban", Washington Examiner, June 27 2010, http://www.examiner.com/x-19956-Long-Island-New-Moms-Examiner~y2010m6d27-New-York-State-Passes-BPA-Ban

March 2010, and Chicago issued a ban on BPA in children's products in May 2010.[49]

Bans Proposed or Underway: In July 2010 a California ban on BPA in children's products passed the state Assembly despite heavy industry lobbying against it, and now awaits reconciliation with the Senate bill and the Governor's signature.[50] 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.[51]

[49] "Chicago Bans Bottles With BPA Plastic", New York Times, May 13 2009, http://www.nytimes.com/2009/05/14/us/14plastic.html
[50] "ON BISPHENOL A: Infant health prevails in state Assembly vote", San Francisco Chronicle, July 2 2010, http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2010/07/01/EDS01E841K.DTL
[51] "A Big BPA Update", Health Defence Canada, June 28 2010, http://environmentaldefencecanada.blogspot.com/2010/06/big-bpa-update.html