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President
Environmental Working Group

Before the

SUBCOMMITTEE ON COMMERCE, TRADE AND CONSUMER PROTECTION
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE

On

"H.R. 5820, the Toxic Chemicals Safety Act of 2010"

Thursday, July 29, 2010

Mr. Chairman and distinguished members of the subcommittee: My name is Kenneth A. Cook. I am the President and Co-Founder of Environmental Working Group (EWG), a nonprofit research and advocacy organization based in Washington, DC, with offices in Ames, Iowa, and Oakland, California. Thank you for holding this important hearing and for offering me the opportunity to testify.

I want to thank you, Chairmen Rush and Waxman, for your leadership in initiating this long overdue policy debate over how to reform the Toxic Substances Control Act of 1976 (TSCA). Your bill, H.R. 5820, the Toxic Chemicals Safety Act of 2010, is essential to fixing our broken toxic chemicals policy. We applaud you and your staff for conducting an extensive stakeholder process with numerous groups, including our colleagues in the environmental community, organized labor, health-affected groups, healthcare providers, the chemical industry, the consumer products industry and other interested parties. The strong foundation you have laid will build broad, deep support for this landmark legislation. EWG staff have met with every office represented on this committee to discuss the urgent need to reform TSCA.

Modern science has transformed the debate over toxic chemicals policy and underscored the need for H.R. 5820. In 2005, a biomonitoring study commissioned by EWG found more than 200 synthetic industrial chemicals in the umbilical cord blood of 10 newborn infants (EWG 2005a). We discovered that even before they were born, these 10 children had been exposed to a long list of dangerous chemicals, including dioxins and furans, flame retardants, and active ingredients in stain removers and carpet protectors. We also found lead, polychlorinated biphenyls (PCBs) and pesticides banned more than 30 years ago. Last year, in tests of cord blood samples from 10 more newborns, we found comparable unsettling results, including bisphenol A (BPA), a synthetic estrogen that disrupts the endocrine system, and perchlorate, a rocket fuel component and thyroid toxin that can alter brain development (EWG 2009a). The second group of children we tested happened to be of African American, Asian-Pacific and Latino heritage, but their body burdens were very much like the first group, whose ethnic and racial identities are unknown. What this means is that all of us are united by an inescapable and profoundly disturbing reality: **toxic chemical pollution begins in the womb**.

EWG and Centers for Disease Control and Prevention surveys of the scientific literature have found very few tests of umbilical cord blood for industrial chemicals. The few studies that exist have found up to 358 chemicals in cord blood from American newborns (Attachment A). More comprehensive testing would very likely find many more chemicals polluting the bodies of Americans, young and old. Since 1976, when President Ford signed the Toxic Substances Control Act into law, chemical manufacturers have registered for use more than 80,000 chemicals. More than 15,000 chemicals have been manufactured or imported in medium-to-high amounts over the past 25 years. Biomonitoring tests of all Americans have involved less than one percent of those compounds. Over the past 15 years, EWG has tested more than 200 people for 540 chemicals and found up to 482 of them. The more chemicals we test for, the more we find. Meanwhile research on chemicals that are biologically active in extremely small amounts has exploded (Attachment B). The substantial public health costs associated with toxic exposures, ranging in the tens of billions of dollars, continue to rise (Attachment C).

In April 2010, the President's Cancer Panel concluded that "to a disturbing extent, babies are being born pre-polluted." It declared that the number of cancers caused by toxic chemicals is "grossly underestimated" and warned that Americans face "grievous harm" from largely unregulated chemicals that contaminate air, water and food (President's Cancer Panel 2010).

As modern science has demonstrated, we must reform federal law through H.R. 5820 to ensure that new chemicals are safe for kids, our most vulnerable population, before they are allowed to go on the market. Each day brings another jarring headline as new research documents the health dangers of toxic chemicals. The need for H.R. 5820 has never been more urgent.

Voices from across the political spectrum are calling on Congress to reform, modernize or overhaul this failed law. The American Chemistry Council's principles to modernize TSCA and the Safer Chemicals, Healthy Families Coalition's principles of reform provide excellent frameworks for engagement, debate and consensus building. EWG's principles for reform are embodied in the Kid-Safe Chemicals Acts of the previous two Congresses, many elements of which remain in H.R. 5820. We have strongly supported those principles since "Kid-Safe" was first introduced five years ago.

Reasonable Certainty of No Harm. We applaud H.R. 5820's risk-based approach to regulation, and we support expedited risk assessments and actions on persistent, bioaccumulative toxins as set forth in Section 32. (EWG Testimony 2010). We strongly support Section 6's explicit language that would squarely place the burden of proof on industry to show that its products are safe for public health and vulnerable populations. We believe that the "reasonable certainty of no harm" safety standard in Section 6 of H.R. 5820, language similar to that of the well-regarded Food Quality Protection Act of 1996, should replace TSCA's futile "unreasonable risk of significant injury to health or the environment" regime. A "reasonable certainty of no harm" standard would require the Environmental Protection Agency (EPA) to consider aggregate exposures and all exposure routes, again, a principle usefully borrowed from FQPA. H.R. 5820 requires that both existing and new chemicals must meet this safety standard, a needed clarification from the discussion draft. We applaud the requirement to make public safety determinations.

Minimum Data Set. Section 4 outlines key data sets that manufacturers would be required to give the EPA, including chemical identity, substance characteristics, biological and environmental fate and transport; toxicological properties; volume manufactured, processed, or imported intended uses, and exposures from all stages of the chemical substance or mixture's lifecycle that are known or reasonably foreseeable. We support the language that provides for tiered testing and data sharing to reduce costs and minimize animal testing. It is essential to an effective toxics policy that EPA have clear authority to require additional testing and ask for any study needed to better understand the risks of any chemical. We would like to see clear requirements that industry disclose chemical dossiers prepared for: the European toxics regulatory framework Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH); EPA's voluntary High Production Volume challenge program; internal uses; data from other government agencies, such as the Food and Drug Administration; the National Children's Study; EPA's TOXCAST and other high-throughput screening batteries. Lack of data must never again be an obstacle to protecting public health. Section 4 of H.R. 5820 puts us on the track to accomplishing that goal.

Prioritization & Biomonitoring. Detection of a chemical in umbilical cord blood does not prove that it will cause harm. As researchers have mapped more and more of what we have dubbed the "human toxome," however, scientists, public health experts and policymakers have embraced biomonitoring as the logical foundation for regulation of industrial chemicals. The Kid-Safe Chemicals Act, H.R. 6100, as introduced in the 110th Congress, would have prioritized safety assessments by focusing first on the chemicals that show up in people. The measure would have required phasing out production and use of chemicals found in human umbilical cord blood unless rigorous testing showed these substances to be safe.

EWG's nearly one million supporters, the vast majority of whom are parents, and the more than 111,000 citizens who signed our Kid Safe Chemicals petition will be disappointed that H.R.5820 will not ensure that the government has determined what industrial toxic chemicals pollute babies in the womb, or that the government will not ensure the safety of chemicals that are "pre-polluting" babies. The text of our petition reads as follows:

> **Babies are born pre-polluted with 100′s of toxic chemicals. our broken toxics law is failing them. we need your help to change that.** EWG tested the umbilical cord blood of 10 newborn babies and found nearly 300 chemicals, including BPA, fire retardants, lead, polychlorinated biphenyls (PCBs) and pesticides that were banned more than 30 years ago. Speak up for change. Our kids deserve it. Bills to overhaul federal toxic chemicals policies are now moving through Congress. They would require that all chemicals be proven safe for children before they can be sold. Lawmakers in Washington need to know that you want strong reforms for our broken toxics law. Please sign this petition to demand that Congress take action to make chemicals in consumer products kid-safe.

We believe that much of the tremendous momentum for public support of toxic chemicals policy reform is driven by concern for children's health.

H.R. 5820's vague language that a chemical's presence "in biological media" would be one of many factors considered when EPA moved to put a chemical on the priority list. Left unmodified, this approach appears to give equal weight to chemicals found in snails, fish or people. It is our view that industrial chemicals that cross the placenta to contaminate a developing child should be placed at the top of EPA's to-do list. Few factors translate to greater risk to health. Therefore, we will work with the committee to try to strengthen the priority criteria so that we can assure parents that the reform effort will truly protect children from toxic exposures in the womb.

Section 33, on Children's Environmental Health, allows for biomonitoring research of infants and pregnant women if EPA deems the presence of the chemical in "biological media" to be "above that normally found" in pre-polluted babies – in other words, more than "normal" contamination. Fact is, Americans do not and should not accept any contamination of infants in the womb as "normal." We would like to see this language strengthened. We strongly support this section's public disclosure requirements of biomonitoring data.

We commend the committee for placing the 19 chemicals listed in Section 6 on the priority list. Over the last 15 years, EWG, along with our colleagues in the environmental community, has conducted research on many of these priority chemicals. In 2007, for example, a landmark study by EWG found BPA in 57 percent of canned food samples tested. Last year, for the first time in U.S. infants, EWG detected BPA in 9 of 10 umbilical cord blood samples. This month, EWG reported finding high levels of BPA in 40 percent of receipts from major U.S. businesses and services. In 2001 and 2003, EWG issued reports on perchlorate contamination of tap water and groundwater in California and other states and on high levels of this thyroid toxin in lettuce samples and cow's milk. EWG's analysis has found millions of American women of childbearing age at risk of abnormal thyroid hormone levels during pregnancy. In 2008, EWG reported detecting phthalates in adolescent girls. In March 2009, laboratory tests by EWG and the Campaign for Safe Cosmetics found that 23 out of 28 children's personal care products were contaminated with formaldehyde, a probable carcinogen (Attachment D). Given the weight of scientific evidence on the health effects of these 19 chemicals, we agree they should be on the priority list.

We were surprised that asbestos was omitted from the priority list. Given the longstanding scientific evidence of the dangers of asbestos and the Bush EPA's unsuccessful efforts to ban it in the 1980s, this legislation must expedite a rapid phase out of this dangerous substance.

Reporting Requirements. We support Section 8's requirements to provide EPA with critical data on chemical use, manufacturer, potential worker exposures and facilities, and relevant health and safety data studies. The public inventory and online database requirements promote transparency and accountability. Most Americans would probably be shocked that these data requirements have not long been in place.

"Hot Spots" and Fenceline Communities. We are pleased to see that this legislation tackles the myriad issues facing communities disproportionately affected by industrial pollution. EWG's 2009 report, "Pollution in 5 Extraordinary Women: The Body Burden of Environmental Justice Leaders," documented up to 48 chemicals in the blood of five prominent women environmental justice leaders. The women, from New Orleans, Corpus Christi, Oakland and Green Bay are working to rid their communities of pollution from local manufacturing plants, hazardous waste dumps and oil refineries. Every woman was contaminated with flame retardants, Teflon chemicals, synthetic fragrances, BPA and perchlorate (EWG 2009e). This legislation's "hot spot" list and action plan would help EPA focus resources on the many communities that suffer disproportionate exposure to chemicals. We would like to see this provision toughened to ensure that emissions from "TSCA-regulated" chemicals are explicitly pegged for virtual elimination in the action plans. The bill should also spell out penalties if EPA, a state, or a locality does not fully implement an action plan or fails to meet the reduction targets. We thank the committee for acknowledging the need to focus on these communities. We look forward to working with you to ensure that the section will fully address the issue of disproportionate exposure.

Confidential Business Information (CBI). Section 14 of H.R. 5820 reflects a major step forward in creating more transparency and curbing industry abuses of CBI. The Government Accountability Office has testified that about 95 percent of new chemical applications contain confidentiality claims. (GAO 2009). EWG has found that industry has made CBI claims for the identities of 13,596 chemicals produced since 1976 – nearly two-thirds of the 20,403 chemicals added to commerce in the past 34 years. A significant number of these secret chemicals are used in everyday consumer products, including artists' supplies, plastic products, fabrics and apparel, furniture and children's items. EPA data show that at least 10 of the 151 high volume confidential chemicals produced or imported in amounts greater than 300,000 pounds a year are used in products specifically intended for children (EWG 2010a). Last fall, EPA released the chemical identity of 530 high production volume chemicals because that information was already publicly available.

The overbroad secrecy provisions in current law threaten public health. Under section 8(e) of TSCA, companies must turn over all data showing that a chemical may present a substantial risk of injury to health or the environment. By definition, these are the chemicals of the greatest health concern. In the first eight months of 2009, industry concealed the identity of the chemicals in more than half the studies submitted under 8(e). Independent researchers and the public simply do not know how many of those chemicals are present in our bodies and in newborns.

H.R. 5820 proposes a crucial improvement by prohibiting the secrecy of chemical identity in health and safety study submissions. It would ensure that chemical identity and health and safety data would be publicly available and that the EPA could share important information with other federal agencies and state and local governments. The legislation would require that manufacturers justify confidentiality. EPA could deny that claim. These provisions would end the spurious confidentiality claims that have plagued TSCA but would permit some information to remain confidential. We are pleased to see that there is a sunset of 5 years on confidential information. Even the Central Intelligence Agency (CIA) and the National Security Administration (NSA) release confidential information every few years – why not EPA?

Safer Alternatives & Green Chemistry. We generally support the "safer alternatives" language outlined in section 35 of H.R. 5820, especially the requirement that they pass the "reasonable certainty of no harm" safety standard and submit a minimum data set for these alternatives. All too often consumers find that a bad actor chemical is replaced with an alternative, the identity and safety of which are uncertain.

Exemption for Intrinsic Properties of Chemicals. Section 39 provides EPA broad discretion to exempt certain chemical substances or mixtures from the minimum data set, the safety standard and reporting processes. While we understand the need for chemicals to go to the market and a smart prioritization process, the "intrinsic properties" language of this provision could be abused. We look forward to working with the committee on options for dealing with this concern.

EPA Oversight Authority. We applaud Section 11, which would expand the authority for EPA to conduct inspections and issue subpoenas to chemical facilities. Consumers have lost confidence in many products as a result of EPA's terribly weak oversight authority. This section would help restore the public's confidence in our regulatory framework. Sections 16 and 17 would provide EPA with needed authority to impose penalties for violations, criminal penalties for knowing endangerment, and would clarify that EPA has the authority to authorize compliance with any rule or order issued under the Act. Section 40 would ensure that the bill applies to federal agencies that manufacture or produce chemical substances or mixtures. These sections are critical measures to ensure a vibrant regulatory toxics policy.

RECOMMENDATIONS

In conclusion, we commend the committee for its commitment to TSCA reform. We support H.R. 5820 and the steps Chairmen Rush and Waxman have taken to ensure a strong safety standard, mandate stronger EPA authority to put the burden on industry to show a chemical is safe before it goes on the market promote prioritization, require a minimum data set and address abuses of confidential business information claims. To protect our children's health, however, the federal government must place a greater emphasis on biomonitoring of cord blood. EWG applauds the committee for its dedicated work on toxic chemicals policy reform. We look forward to working with you to urge Congress to take quick action to establish a national policy on chemicals based on the newest and best science. Thank you for your time. I welcome the opportunity to answer any questions you may have.

Attachments

ATTACHMENT A: Results of Select Cord Blood Biomonitoring Studies of American Infants

ATTACHMENT B: Studies show everyday chemical exposures are linked to serious adverse health effects

ATTACHMENT C: Public Health Costs of Toxic Exposures

ATTACHMENT D: Overview of EWG's Research on Priority Chemicals in Section 6

References

ATTACHMENT A: RESULTS OF SELECT CORD BLOOD BIOMONITORING STUDIES OF AMERICAN INFANTS

Nationally, cord blood biomonitoring studies have detected up to 358 chemicals

Chemical class	Chemical subclass	Summary of representative study	No. of newborns tested	Place of birth	No. of Chemicals found
Dioxin & Furan	Brominated dioxin	EWG tested cord blood from 10 newborns for 12 brominated dioxins and furans and found at least one of these chemicals in 7. In the 7 newborns, 6 to 7 different congeners were found. Mean total level was 12 pg/g lipids in blood serum. (EWG 2005)	10	U.S. hospitals	6-7
Dioxin & Furan	Brominated dioxin	EWG tested cord blood from 10 newborns of minority background for 12 brominated dioxins and furans and found at least one in 4 of the subjects. Six different congeners were found. Mean total level was 10.7 pg/g lipids in blood serum. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	6
Dioxin & Furan	Chlorinated dioxin	Researchers from the SUNY Health Science Center tested cord blood from 5 babies delivered via C-section from late 1995 to early 1996 for dioxins, dibenzofurans, and coplanar PCBs. Mean measured levels of total PCDDs, PCDFs, and coplanar PCBs were 165 pg/g for cord blood. (EWG 2005)	5	N.Y.	1
Dioxin & Furan	Chlorinated furan	EWG tested cord blood from 10 newborns for 17 chlorinated dioxins and furans and found at least one in all 10 subjects. Eleven different congeners were found. Mean total level was 56.3 pg/g lipids in blood serum. (EWG 2005)	10	U.S. hospitals	11
Dioxin & Furan	Chlorinated furan	EWG tested cord blood from 10 newborns of minority background for 17 chlorinated dioxins and furans and found at least one in all 10 subjects. Fifteen (15) different congeners were found. Mean total level was 59.7 pg/g lipids in blood serum. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	15
Fire Retardant	Brominated Fire Retardant	EWG measured TBBPA levels in cord blood from 10 newborns of minority background. TBBPA was found in 3 samples with a mean level of 11 ng/g lipids in blood serum. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	1
Metal	Cadmium	Researchers from Harvard measured cord blood concentrations of cadmium in 94 healthy babies, finding concentrations ranging from 0.003 to 0.210 ug/dl, with mean of 0.045 ug/dl. (Rabinowith 1984)	94	Boston, Mass.	1
Metal	Lead	Researchers from SUNY Oswego, the New York State Department of Health, the University of Albany, and Penn State University measured cord blood lead levels in 154 children and correlated lead levels with adrenocortical responses to acute stress in children. They divided cord blood levels into the following 4 quartiles: < 1.0 (1st quartile; n = 37), 1.1–1.4 ?g/dL (2nd quartile; n = 39), 1.5–	154	N.Y.	1

Chemical class	Chemical subclass	Summary of representative study	No. of newborns tested	Place of birth	No. of Chemicals found
		1.9 ?g/dL (3rd quartile; n = 36), and 2.0–6.3 ?g/dL (4th quartile; n = 42). (Gump 2008)			
Metal	Lead	Researchers from Harvard University, Emory University, and University of Massachusetts at Amherst tested lead levels in cord blood from 527 babies born between 1993 and 1998 and found mean levels of 1.45 ug/dL. (Sagiv 2008)	527	New Bedford, Mass.	1
Metal	Mercury	Researchers from Columbia University and the CDC tested for cord blood levels of mercury in women who live and or work close to the World Trade Center site between Dec. 2001 and June 2002. The researchers found a mean cord mercury level of 7.82 ug/L. (Lederman 2008)	289	New York City, N.Y.	1
Musk	Musk	EWG measured nitro and polycyclic musk levels in cord blood from 10 newborns of minority background. Galoxolide was found in 6 samples at a mean level of 0.483 ng/g, and tonalide was found in 4 samples at a mean level of 0.147 ng/g. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	2
PAH	Polyaromatic hydrocarbons (PAHs)	Researchers from Columbia University measured levels of benzoA-pyrene DNA adduct levels in 203 babies from New York City mothers who were pregnant during 9/11. (Perera 2005)	203	New York City, N.Y.	1
PAH	Polyaromatic hydrocarbons (PAHs)	EWG tested cord blood from 5 newborns for 18 polyaromatic hydrocarbons and found at least one in all 5 subjects. Nine (9) different chemicals were found with total mean concentration of 279 ng/g lipids in blood serum. (EWG 2005)	5	U.S. hospitals	9
PBDE	Polybrominated diphenyl ether (PBDE)	Researchers from Columbia University and Johns Hopkins tested 297 cord blood samples from babies born at Johns Hopkins Hospital from Nov. 26, 2004 to March 16, 2005 for 8 PBDE congeners. They report that 94% of the samples contained at least one of the tested congeners. (Herbstman 2007)	297	Baltimore, Md.	7
PBDE	Polybrominated diphenyl ether (PBDE)	Researchers from Indiana University measured levels of 6 PBDEs in 12 paired samples of maternal and cord blood from live births that occurred from Aug. to Dec., 2001. They found that concentrations of PBDEs in both sets of samples were 20-to-106 fold higher than levels reported in a similar study from Sweden, leading them to conclude "human fetuses in the United States may be exposed to relatively high levels of PBDEs." (Mazdai 2003)	12	Indianapolis, Ind.	6
PBDE	Polybrominated diphenyl ether (PBDE)	EWG tested cord blood from 10 newborns for 46 polybrominated diphenol ethers (PBDEs) and found at least one of these chemicals in 10 out of 10 participants. Among all 10	10	U.S. hospitals	27-32

Chemical class	Chemical subclass	Summary of representative study	No. of newborns tested	Place of birth	No. of Chemicals found
		participants who tested positive for the chemicals, 27 to 32 different congeners were found. Mean total level was 4.53 ng/g lipids in blood serum. (EWG 2005)			
PBDE	Polybrominated diphenyl ether (PBDE)	EWG tested cord blood from 10 newborns of minority background for 46 polybrominated diphenyl ethers (PBDEs) and found at least one in all 10 samples. Among all 10 participants who tested positive for the chemicals, 26 to 29 different congeners were found. Mean total level was 72.9 ng/g lipids in blood serum. (EWG 2009)	10	U.S. hospitals	26-29
PBDE	Polybrominated diphenyl ether (PBDE)	Researchers at Columbia University and Johns Hopkins tested 288 cord blood samples from babies born at Johns Hopkins Hospital from Nov. 26, 2004 to March 16, 2005 for 3 PBDE congeners. In all the 288 subjects, all three congeners were found. (Herbstman 2008)	288	Baltimore, Md.	3
PBDE	Polybrominated diphenyl ether (PBDE) Metabolite	Researchers from the School of Public and Environmental Affairs at Indiana University tested PBDE and PBDE metabolities in 20 pregnant women and their newborn babies who had not been intentionally or occupationally exposed. They noted that metabolites in humans seem to be accumulating. (Qiu 2009)	20	Indianapolis, Ind.	10
PCB	Polychlorinated biphenyl (PCB)	Researchers at Columbia University and Johns Hopkins tested 297 cord blood samples from babies born at Johns Hopkins Hospital from Nov. 26, 2004 to March 16, 2005 for 35 PCB congeners. They report levels for 4 of the 35 but note that ">99% (of samples) had at least one detectable PCB congener." (Herbstman 2007)	297	Baltimore, Md.	18
PCB	Polychlorinated biphenyl (PCB)	Researchers from SUNY Oswego investigated cord blood levels of PCBs in children born between 1991 and 1994 and correlated levels with response inhibition when the children were 4.5 years of age. The researchers found that "results indicated a dose-dependent association between cord blood PCBs and errors of commission." (Stewart 2003)	293	Great Lakes states	7
PCB	Polychlorinated biphenyl (PCB)	EWG tested cord blood from 10 newborns for 209 polybrominated diphenol ethers (PBDEs) and found at least one of these chemicals in 10 out of 10 participants. Among all 10 participants who tested positive for the chemicals, 98 to 147 different congeners were found. Mean total level was 6.2 ng/g lipids in blood serum. (EWG 2005)	10	U.S. hospitals	98-147
PCB	Polychlorinated biphenyl (PCB)	EWG tested cord blood from 10 newborns of minority background for 209 polychlorinated biphenyls and found at least one in all 10 samples. Among all 10 participants who tested positive for the chemicals, 98 to 144 different congeners were found. Mean total level was 22.1 ng/g lipids in blood serum. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	98-144

Chemical class	Chemical subclass	Summary of representative study	No. of newborns tested	Place of birth	No. of Chemical s found
PCB	Polychlorinate d biphenyl (PCB)	Researchers from Harvard, Emory, and the University of Massachusetts at Amherst tested levels of 51 PCB congeners in cord blood from 542 babies born between 1993 and 1998. No information on levels of individual congeners is given; however, the mean sum of PCB congeners 118,138,153, and 180 is 0.25 ng/g and the TEF-weighted sum of mono-ortho PCB congeners 105, 118, 156, 167, and 189 is 6.75 pg/g lipid. (Sagiv 2008)	542	New Bedford, Massachusetts	>4
PCN	Polychlorinate d naphthalene (PCN)	EWG tested cord blood from10 newborns for 70 polychlorinated naphthalenes and found at least one in all 10 subjects. In all, 31 to 50 different congeners were found with total mean concentration of 0.574 ng/g lipids in blood serum. (EWG 2005)	10	U.S. hospitals	31-50
PCN	Polychlorinate d naphthalene (PCN)	EWG tested cord blood from10 newborns of minority background for 70 polychlorinated naphthalenes and found at least one in all 10 subjects. In all, 17 to 24 different congeners were found, with total mean concentration of 0.637 ng/g lipids in blood serum. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	17-24
Pesticide	Carbamate	Researchers from Columbia University, the CDC, and the Southwest Research Institute measured the levels of 29 pesticides in cord plasma from 211 babies born into an urban community in New York City between Sept.1998 and May 2001. 48% of the babies had exposure to 2-Isopropoxyphenol, 45% to carbofuran, and 36% to bendiocarb. All of the babies were exposed to at least one carbamate. (Whyatt 2003)	211	New York City, N.Y.	5
Pesticide	Fungicide	Researchers from Columbia University, the CDC, and the Southwest Research Institute measured the levels of 29 pesticides in cord plasma from 211 babies born into an urban community in New York City between Sept. 1998 and May 2001. 83% of the babies had exposure to dicloran, 70% to phthalimide. All of the babies had exposure to at least one fungicide. (Whyatt 2003)	211	New York City, N.Y.	4
Pesticide	Herbicide	Researchers from Columbia University, the CDC, and the Southwest Research Institute measured the levels of 29 pesticides in cord plasma from 211 babies born into an urban community in New York City between Sept. 1998 and May 2001. 38% had exposure to chlorthal-dimethyl and 20% had exposure to Alachor. All had exposure to at least one herbicide. (Whyatt 2003)	211	New York City, N.Y.	5
Pesticide	Imide	Researchers from Columbia University, the CDC, and the Southwest Research Institute measured the levels of 29 pesticides in cord plasma from 211 babies born into an urban community in New York City between Sept. 1998 and May 2001. 83% had exposure to dicloran and 70% had exposure to phthalimide. All had exposure to at least one fungicide.	211	New York City, N.Y.	1

Chemical class	Chemical subclass	Summary of representative study	No. of newborns tested	Place of birth	No. of Chemicals found
		(Whyatt 2003)			
Pesticide	Mosquito Repellent	Researchers from Columbia University, the CDC, and the Southwest Research Institute measured the levels of 29 pesticides in cord plasma from 211 babies born into an urban community in New York City between September 1998 and May 2001. 33% of the babies had exposure to diethyltoluamide. (Whyatt 2003)	211	New York City, N.Y.	1
Pesticide	Organochlorine Pesticide (OC)	Researchers from Harvard, Emory, and the University of Massachusetts at Amherst tested levels of 2 organochlorine pesticides in cord blood from 542 babies born between 1993 and 1998. Mean DDE levels were 0.48 ng/g serum. Levels of HCB were not given. (Sagiv 2008)	542	U.S. hospitals	1
Pesticide	Organochlorine Pesticide (OC)	EWG tested cord blood from10 newborns for 28 organochlorine pesticides and found at least one in all 10 subjects. In all, 21 different pesticides were found. (EWG 2005)	10	U.S. hospitals	21
Pesticide	Organophosphate Pesticides and Metabolites	Researchers from Columbia University, the CDC, and the Southwest Research Institute measured the levels of 29 pesticides in cord plasma from 211 babies born into an urban community in New York City between Sept. 1998 and May 2001. 71% had exposure to chlorpyrifos (mean 4.7 pg/g) and 49% had exposure to diazinon (mean 1.2 pg/g), the two most commonly detected pesticides. All other pesticides were found in 4% or less of the samples and all babies had exposure to at least one of the organophosphates. (Whyatt 2003)	211	New York City, N.Y.	8
Pesticide	Pyrethroid	Researchers from Columbia University, the CDC, and the Southwest Research Institute measured the levels of 29 pesticides in cord plasma from 211 babies born into an urban community in New York City between Sept 1998 and May 2001. 7% had exposure to trans-permethrin and 13% had exposure to cis-permethrin. (Whyatt 2003)	211	New York City, N.Y.	2
PFC	Perfluorochemical (PFC)	Researchers from CDC, Columbia University, and Johns Hopkins tested cord blood from 299 babies born at Johns Hopkins Hospital between Nov. 26, 2004 and March 16, 2005 for 10 PFCs. They detected PFOS in 99% and PFOA in 100% of samples. Eight other PFCs were detected at lesser frequency. (Apelberg 2007)	299	Baltimore, Md.	9
PFC	Perfluorochemical (PFC)	EWG tested cord blood from 10 newborns for 12 perfluorochemicals and found at least one of these chemicals in 10 out of 10 participants. Among all 10 participants who tested positive for the chemicals, 9 of 12 different chemicals were found with total mean concentration of	10	U.S. hospitals	9

Chemical class	Chemical subclass	Summary of representative study	No. of newborns tested	Place of birth	No. of Chemicals found
		5.86 ng/g in whole blood. (EWG 2005)			
PFC	Perfluorochemical (PFC)	EWG tested cord blood from10 newborns of minority background for 13 perfluorochemicals and found at least one of these chemicals in 10 out of 10 participants. Among all 10 participants who tested positive for the chemicals, 6 of 13 different chemicals were found with total mean concentration of 2.38 ng/g in whole blood. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	6
Plastic	Bisphenol A & BADGE	Researchers from the Environmental Working Group measured BPA levels in cord blood from 10 newborns of minority background. BPA was found in 9 of 10 samples with a mean level of 2.18 ng/L. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	1
Rocket fuel	Perchlorate	Researchers from the Environmental Working Group measured perchlorate levels in cord blood from 10 newborns of minority background. Perchlorate was found in 9 of 10 samples with a mean level of 0.209 ug/L. (EWG 2009)	10	Mich. Fla. Wis. Mass. Calif.	1

Attachment B: Studies show everyday chemical exposures are linked to serious adverse health effects

Chemical	Study Population	Finding	Range of concentrations in population studied (ppb)
Phthalates	Infant boys (n=85)	Boys with higher prenatal exposure to phthalates (measured in maternal urine) had decreased anogenital distance (Swan et al 2005).	Mono-isobutyl phthalate (MiBP): Not detected (ND) to >7.7 Mono-benzyl phthalate (MBzP): ND to >25.8 Mono-n-butyl phthalate (MBP): ND to >38.7 Mono-ethyl phthalate (MEP): ND to >1076
Bisphenol A (BPA)	Children (n=249)	Parents of children with higher exposure to BPA during early pregnancy (as measured in maternal urine) report higher incidence of behavioral effects in daughters, including increased aggression and hyperactivity (Braun et al 2009).	ND to >37.3
Bisphenol A (BPA)	Adults (n=2,605)	Adults with higher BPA levels in urine reported higher prevalence of cardiovascular disease (Melzer et al 2010a).	ND to 80.1
Brominated flame retardants (PBDEs)	Newborns (n=288)	Newborns with higher levels of certain PBDEs in cord blood serum had decreased levels of thyroid hormones critical to normal brain development (Herbstman et al 2008).	Bromodiphenyl ether congener 47 (BDE-47): 1.1 to 311 BDE-100: 0.5 to 77
Perfluorochemicals (PFCs)	Newborns (n=293)	Newborns with higher levels of two PFCs in cord blood serum, PFOA and PFOS, were found to have lower birth weight and head circumference (Apelberg et al 2007).	Perfluorooctane sulfonate (PFOS): ND to 34.8 Perfluorooctanoic acid (PFOA): 0.3 to 7.1
Perfluorochemicals (PFCs)	Adults (n=3,974)	Adults with higher levels of two PFCs in their blood serum, PFOA and PFOS, reported higher prevalence of thyroid disease (Melzer et al 2010b).	PFOA: 0.1 to 123 PFOS: 0.1 to 435
Brominated flame retardants (PBDEs)	Adult women (n=223)	Women with higher levels of certain PBDEs in their blood serum were found to have significant decreases in their ability to conceive (Harley et al 2010).	BDE-47: ND to >25.2 BDE-100: ND to >4

ATTACHMENT C: Public Health Costs of Chemical Exposures

Disease	Cost or burden associated with chemical exposures	Finding
Childhood Diseases	$55 billion	An authoritative 2002 study attributed all lead poisoning cases, 30 percent of asthma cases, 10 percent of neurobehavioral disorders and 5 percent of pediatric cancers to chemical pollution. The study, led by pediatrician Philip J. Landrigan, director of the Children's Environmental Health Center at Mount Sinai School of Medicine, estimated the annual costs of this toxic disease burden at $55 billion, nearly 3 percent of U.S. health care costs at the time (Landrigan 2002).
Neurodevelopmental Disease	Up to $83.5 billion	The annual cost of neurodevelopmental disease is estimated at $81-to-167 billion per year. As much as half may be due to exposure to toxic chemicals, according to a 2001 study led by economist Tom Muir of Environment Canada (Muir 2001).
Mercury-linked IQ Loss	$8.7 billion	Low-dose exposure to mercury and other neurotoxic chemical pollution can cause severe and sometimes lifelong neurobehavioral and cognitive problems, according to the National Institutes for Environmental Health Studies (Mendola 2002). A 2005 study by Mount Sinai researchers estimated the costs of this loss of intelligence and productivity from childhood mercury poisoning at $8.7 billion a year (Trasande 2005). Mercury is just one of 201 chemicals known to be neurotoxic in humans (Grandjean 2006).
Chronic Childhood Disease	Up to 80-90%	Mount Sinai's Landrigan estimates that genetics account for only 10-20 percent of cases of chronic disease in childhood in the U.S. and other industrialized nations (Landrigan 2001). This includes: birth defects, the leading cause of infant death; developmental disorders such as attention deficit hyperactivity disorder and autism; asthma, which more than doubled in incidence from 1980 to 1996, according to the Centers for Disease Control and Prevention (Moorman 2007); and childhood leukemia and brain cancer, on the rise since the 1970s (Gurney 1996; Linabery 2008). Landrigan's team and other specialists say that many diseases, from respiratory illness to immune, thyroid and neuropsychological deficits, are likely linked to environmental toxins (Etzel 2004; Sly 2008; Wigle 2008).
Developmental Problems	28 percent	An expert committee of the National Academy of Sciences concluded in 2000 that a combination of environmental and genetic factors cause 25 percent of American children's developmental problems, including low birth weight, neurobehavioral deficits and pre- and post-natal death. The report estimated that another 3 percent are caused by toxic environmental exposures alone (NRC 2000).
Children on Medication	26 percent of all children (irrespective of link to chemical exposures)	In 2007, 26 percent of Americans age 19 and under took prescription drugs for chronic health problems, according to a major pharmaceutical benefit provider. The most commonly dispensed medications were treatments for asthma and allergy, followed by attention deficit/hyperactivity disorder (ADHD) and depression (Medco 2008). No one knows for sure how much chemical exposures contribute to this disease burden, but a wide range of compounds have been linked to the most common children's health problems, including 82 types of chemicals or pollution linked to asthma (Janssen 2009).
Lifetime Disability		Chemical injury to developing organs in a young child or an infant can cause lifelong disability (NRC 1993, U.S. EPA 1998). Numerous studies have linked early exposure to chemical pollutants to later health problems, including: asthma and respiratory disorders; thyroid deficits; cardiovascular disease; learning disabilities, intellectual delay, loss of IQ points and corresponding loss of earning potential; and neurodegenerative conditions such as Parkinson's disease (Boyd 2008; Etzel 2004; Landrigan 2002; Muir 2001; Weiss 2000).
Indirect Costs		The U.S. EPA and the European Organization for Economic Cooperation and Development (OECD) say the true costs of chronic childhood illnesses include: parents' earnings forgone to care for child; value of missed school days; child's foregone earnings; effects of reduced educational attainment on child's future earnings; reduced labor force associated with developmental disabilities. (OECD 2006, U.S. EPA 2002).
Human Diseases Linked to Exposures	182 diseases	Based on a comprehensive review of scientific literature, researchers at the University of California, San Francisco and Boston Medical Center documented 182 human diseases and health problems, including birth defects, asthma, and childhood cancers, associated with chemical exposures (Janssen 2008).
"Serious Threat to Children"		At the 2004 international summit on chemicals and health at the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Paris, 154 prominent scientists, physicians and other experts from the U.S. and 18 other nations signed a statement asserting that chemical exposures are a "serious threat to children" (PA 2005).

ATTACHMENT D: Overview of EWG's Research on Priority List Chemicals

Priority Chemical	Overview of Environmental Working Group's Research
Bisphenol A	In 2007, a landmark study by EWG found BPA in 57 percent of canned food samples tested (EWG 2007). Last year, for the first time in U.S. infants, EWG detected BPA in 9 of 10 umbilical cord blood samples (EWG 2009a). This month, EWG reported finding high levels of BPA in 40 percent of receipts from major U.S. businesses and services (EWG 2010b).
Perchlorate	In 2003, EWG analyzed data on perchlorate contamination of tap water and groundwater in California and other states (EWG 2003a). EWG found high levels of the thyroid toxin in lettuce samples and cow's milk (EWG 2003b, EWG 2004). EWG's in-depth analysis of data from the Centers for Disease Control and Prevention found that millions of American women of child-bearing age were at risk of abnormal thyroid hormone levels during pregnancy (EWG 2006).
Trichloroethylene, tetrachloroethylene, methylene chloride and vinyl chloride	The 2009 edition of EWG's National Tap Water database, highlighting contaminants in drinking water, reported that trichloroethylene had been detected in water from 653 utilities in 39 states; tetrachloroethylene in water from 803 utilities in 40 states; methylene chloride in water from 841 utilities in 37 states; and vinyl chloride in water from 121 utilities in 27 states (EWG 2009b). All cases exceeded federal health guidelines, and many surpassed EPA's legal limits.
Hexavalent chromium	In 2005, EWG partnered with the Wall Street Journal to expose a fraudulent journal article, ghostwritten by an industry consultant, that denied a link between hexavalent chromium and stomach cancer (EWG 2005b). California state scientists found a statistically significant increase in stomach cancer among chromium-exposed people. EWG's exposé led the journal to retract the article.
Phthalates	EWG's "Beauty Secrets" report, published in 2000, analyzed CDC data finding dibutyl phthalate present in every person tested (EWG 2000). In 2008, EWG reported detecting phthalates in adolescent girls (EWG 2008).
Formaldehyde	In March 2009, laboratory tests by EWG and the Campaign for Safe Cosmetics found that 23 out of 28 children's personal care products were contaminated with formaldehyde, a probable carcinogen (EWG 2009c).
Hexane	In a July 2009 study entitled *Bottled Water Quality Investigation: 10 Major Brands, 38 Pollutants*, EWG found hexane, an industrial chemical, in 4 of 10 brands tested (EWG 2009d).

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