Not Too Pretty

Phthalates, Beauty Products & the FDA

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Health Care Without Harm

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Summary

In May 2002 a coalition of environmental and public health organizations contracted with a major national laboratory to test 72 name-brand, off-the-shelf beauty products for the presence of phthalates, a large family of industrial chemicals linked to permanent birth defects in the male reproductive system. The laboratory found phthalates in nearly three-quarters of the products tested (52 of 72 products, Table 1), including nine of 14 deodorants, all 17 fragrances tested, six of seven hair gels, four of seven mousses, 14 of 18 hair sprays, and two of nine hand and body lotions (Table 2), in concentrations ranging from trace amounts to nearly three percent of the product formulation.

Major loopholes in federal law allow the $20-billion-a-year cosmetics industry to put unlimited amounts of phthalates into many personal care products with no required testing, no required monitoring of health effects, and no required labeling. To our knowledge, the 72 product tests detailed in this study represent the most comprehensive information available on the occurrence of phthalates in individual beauty care products. None of the 52 phthalate-containing products lists the offending chemical on its ingredient label.

In animal tests some phthalates damage the developing testes of offspring and cause malformations of the penis and other parts of the reproductive tract. The same phthalates that cause permanent harm of the male reproductive system in laboratory studies are also found in hair spray, deodorant, and fragrances – big-name products like Revlon, Calvin Klein, Christian Dior, and Procter & Gamble. The laboratory found phthalates in Pantene Pro V "Healthy Hold" and Aqua Net hair sprays, Arrid and Degree deodorants, and fragrances like Poison by Christian Dior and Coty's Healing Garden Pure Joy Body Treatment, to name just a few (Table 2).

Chemicals that cause birth defects do not belong in products marketed to women of childbearing age. Although the 72 items tested here represent just a minute fraction of the market, the

Chemicals that cause birth defects do not belong in products marketed to women of childbearing age

Table 1. At least five different phthalates are present in cosmetic products

	Percent of products tested or surveyed that contain this phthalate (and number of products out of the 72 products tested)	Types of products	Average concentration from all positive tests (parts per million)	Maximum concentration found (parts per million)
All phthalates tested	72 percent (52 products)	Deodorant, fragrance, hair gel, hair mousse, hair spray, hand and body lotions, nail polish		
Diethyl phthalate (DEP)	71 percent (51 products)	Deodorant, fragrance, hair gel, hair mousse, hair spray, hand and body lotions	4070	28,000 (or 2.8 percent)
Dibutyl phthalate (DBP)	67 percent*	Nail polish	50,000 (or 5 percent)*	N/A
Dibutyl phthalate (DBP)	8 percent (6 products)	Deodorant, fragrance, hair spray	275	890
Butylbenzyl phthalate (BBzP)	6 percent (4 products)	Fragrance, hair spray	14	46
Diethylhexyl phthalate (DEHP)	4 percent (3 products)	Fragrance	11	25
Dimethyl phthalate (DMP)	1 percent (1 product)	Deodorant	33	33

Source: Environmental Working Group compilation of product testing results from Stat Analysis Corporation, Chicago, Illinois.
*All results shown reflect data from laboratory chemical analysis except results for nail polish, which stem from an EWG analysis of nail polish ingredient labels and nail polish patent records.

test results indicate in all likelihood a substantial fraction of beauty products available on store shelves contain phthalates.

Phthalate exposure is both higher and more common than previously suspected

— CDC Scientists, 2000

Government data show that women are exposed to individual phthalates at levels above federal safety standards

In September 2000, researchers at the Centers for Disease Control and Prevention (CDC) reported that they found seven phthalates in the bodies of 289 persons tested, and that every person tested had a particular phthalate called dibutyl phthalate, or DBP, in their body. The ubiquity of phthalates in the general population surprised the scientists: "From a public health perspective, these data provide evidence that phthalate exposure is both higher and more common than previously suspected." (Blount et al 2000).

But the biggest surprise came when the researchers broke the data down by age and gender for the phthalate called DBP. They discovered that the most critical population, women of childbearing age whose fetuses are exposed to DBP in the womb, appear to receive the highest exposures. CDC scientists found that DBP exposures for more than two million women of childbearing age may be up to 20 times greater than for the average person in the population. Even more significantly, the highest

exposure estimates for women of childbearing age were above the federal safety standard (Blount et al 2000, Kohn et al 2000, EPA 1990).

Buyer beware: nail polish, deodorant, fragrances, hair spray

When CDC scientists found high levels of DBP in some women's bodies, they speculated that cosmetics might be a source. In a study published in November 2000 (EWG 2000), the Environmental Working Group identified popular nail care products that contain DBP, including polishes, top coats, and hardeners made by L'Oreal, Maybelline, Oil of Olay, and others.

We spent $175 per product to determine if phthalates are present, a cost hardly within the budget of most pregnant women trying to steer clear of myriad products that could potentially harm a fetus

Eight months later, Urban Decay, a California-based company whose DBP-containing nail polish was highlighted in EWG's study (EWG 2000), announced it had reformulated its entire line of nail polish to be DBP-free, and called on other cosmetics companies to "eliminate this dangerous chemical from their formulas" (Urban Decay, June 11 2002). But our updated survey shows that most companies have not been as progressive: in a limited, online drugstore search conducted last month, we found that 67 percent of the nail polishes surveyed (16 of 24) contain dibutyl phthalate (Table 1).

Phthalates in nail polish are subject to federal labeling requirements, and therefore they appear on ingredient lists posted on the back of nail polish bottles or on the box. Not so for the 72 other products we tested in this study, none of which listed the "phthalate" chemical on its label. In these products, phthalates are claimed as fragrances or as a part of trade secret formulas, and are exempt from federal labeling requirements. We spent $175 per product to determine if phthalates are present, a cost hardly within the budget of most pregnant women trying to steer clear of myriad products that could potentially harm a fetus.

People are exposed to more than one phthalate

Our testing showed the presence of five individual phthalates in cosmetics. CDC tested for the presence of seven phthalates in people's bodies and found all seven (Blount et al 2000). But when setting safety standards, the government still assumes that no one is exposed to more than one phthalate at a time. And they also assume that people's bodies are completely free of phthalates prior to the exposure being considered in any given safety assessment, whether it be for phthalates in food, drugs, cosmetics, medical supplies, or consumer products. CDC's studies show that both of these assumptions are wrong.

Table 2. Phthalates were found in all 17 fragrances tested

Contains phthalates	No detected phthalates
DEODORANT	
Arrid Extra Extra Dry Maximum Strength Solid	Certain Dri Anti-Perspirant Roll-On
Arrid Extra Extra Dry Ultra Clear Ultra Clean Spray	Dove Powder Anti-Perspirant Deodorant
Arrid Extra Extra Dry Ultra Clear Ultra Fresh Spray	Lady Speed Stick Soft Solid Anti-Perspirant
Ban Delicate Powder Roll On	Secret Anti-Perspirant & Deodorant Platinum Protection Ambition Scent
Degree Original Solid Anti-Perspirant & Deodorant	Soft & Dri Anti-Perspirant Deodorant Clear Gel
Dove Solid Anti-Perspirant Deodorant	
Secret Sheer Dry Regular	
Secret: Powder Fresh Aerosol	
FRAGRANCE	
Calgon Hawaiian Ginger Body Mist	
Calgon Turquoise Seas Body Lotion	
Charlie Cologne Spray	
Escape by Calvin Klein	
Eternity by Calvin Klein	
Fire & Ice Cologne Spray	
Freedom	
Jovan White Musk	
Lancome Paris Tresor	
Liz Claiborne Eau De Toilette Spray	
Oscar	
Parfums de Coeur White Tahitian Ginger Fantasy	
Poison by Christian Dior	
Red Door	
The Healing Garden Pure Joy Body Treatment	
White Diamonds Elizabeth Taylor	
Wind Song Extraordinary Cologne by Prince Matchabelli	
HAIR GEL	
Clairol Herbal Essences Natural Volume Body Boosting Gel	Physique Extra Control Structuring Gel
Dep Level 4 Shine Gel	
LA Looks Styling Gel: Extra Super Hold	
Suave Naturals Ocean Breeze Extra Control Spray Gel	
TRESemme European Slick Melting Gel	
Pantene Pro V Spray Gel Volumizing Root Lifter	
HAIR MOUSSE	
Aussie Megahold Mousse	Finesse Touchables Silk Protein Enriched Mousse
Clairol Herbal Essences Styling Mousse Maximum Hold	Helene Curtis Thermasilk Heat Activated Mousse for Fine/Thin Hair
Helene Curtis Salon Selectives Rise Up Volumizing Mousse	L'Oreal Paris Studio Line: Springing Curls Mousse
Pantene Pro V Mousse Body Builder	

Table 2 (con't).

Contains phthalates	No detected phthalates
HAIR SPRAY	
Aqua Net Professional Hair Spray	Aussie Mega Styling Spray
Herbal Essences Non Aerosol Hairspray	Helene Curtis Finesse Touchables Silk Protein Enriched
Jheri Redding Finishers Flexible Hold Hairspray	Helene Curtis Thermasilk Heat Activated Firm Hairspray
Pantene Pro V Strong Hold Spray	Suave Naturals Aloe Vera Extra Hold Hairspray
Pantene Pro V Stronghold Healthy Hold Spray	
Rave 4x Mega	
Redken Cat Finishing Spritz	
Salon Selectives Hold Tight Style Freeze Maximum Hold Finishing Spray	
Sebastian Collection Shaper Plus	
Suave Maximum Hold Hairspray Unscented, non-aerosol	
Suave Naturals Extra Flexible Hold Non Aerosol Hairspray Freesia	
TRESemme European Freeze-Hold Hair Spray	
VO5 Crystal Clear 14 Hour Hold	
Vidal Sassoon Microfine Mist Hair Spray, Aerosol	
HAND AND BODY LOTION	
Jergens Skincare Original Scent Lotion	Curel Soothing Hands Moisturizing Hand Lotion
Nivea Crème	Eucerin Dry Skin Therapy Original Moisturizing Lotion
	Lubriderm Skin Therapy Moisturizing Lotion
	Neutrogena Hand Cream
	Suave Naturals Sun Ripened Moisturizing Body Lotion
	Vaseline Intensive Care Advanced Healing
	Vaseline Intensive Care Dry Skin Lotion
NAIL POLISH*	
Avon beComing Radiant Long Last Nail Gloss	Kiss Colors Nail Polish
Cover Girl NailSlicks	L'Oreal Jet Set Nail Enamel
Maybelline Express Finish Fast-Dry Nail Enamel	L'Oreal Jet-Set Quick Dry Nail Enamel
Maybelline Ultimate Wear Nail Enamel	Maybelline Shades of Your Nail Color
Naturistics Super Shine Nail Gloss	Naturistics 90 Second Dry! Super Fast Nail Color
Oil of Olay Nail Laquer	Revlon Nail Enamel
OPI Nail Laquer	Revlon Super Top Speed
Orly Salon Nails French Manicure	Urban Decay
Orly Salon Nails Nail Color	
Sally Hansen Chrome Nail Makeup	
Sally Hansen Hard as Nails Nail Polish	
Sally Hansen Hard as Nails With Nylon Nail Polish	
Sally Hansen Teflon Tuff Nail Color	
Tropez Nail Enamel	
Wet N Wild Crystalic Calcium Enriched Nail Color	
Wet N Wild Nail Color	

Source: Environmental Working Group compilation of product testing results from Stat Analysis Corporation, Chicago, Illinois.
*All results shown reflect data from laboratory chemical analysis except results for nail polish, which stem from an EWG analysis of nail polish ingredient labels and nail polish patent records.

Cosmetics are just one possible source of phthalates in people's bodies, and may be the source that leads to high exposures for some women tested by the CDC. But government studies have made it increasingly clear that people are routinely exposed to multiple phthalates, sometimes at high levels, that can be found in a startling array of everyday products - from food wrap to shower curtains, from automobile interiors to grout and paint, and from pesticides to hospital supplies and cosmetics.

The Food and Drug Administration holds a substantial fraction of the power that could be used to reduce people's exposures to phthalates, through their authority to regulate food, drugs, cosmetics, and medical supplies, all of which can contain phthalates. Yet, when confronted with new evidence of high levels of phthalates in people, they have chosen to do almost nothing to mitigate exposures. Under political pressure and after a citizen's petition from Health Care Without Harm, FDA recently conducted a focused safety assessment on the phthalate called diethylhexyl phthalate (DEHP) in hospital supplies, concluding that newborn baby boys in the hospital can be overexposed to DEHP that leaches from plastic tubing, IV, and food bags (FDA 2001).

FDA has taken no action to reduce the use of phthalates in cosmetics, drugs, and food packaging, despite mounting evidence showing that some people are exposed to potentially dangerous levels of phthalates

Despite this finding, now nine months old, FDA has yet to make recommendations to doctors and hospitals on how to mitigate exposures. FDA has taken no action to reduce the use of phthalates in cosmetics, drugs, and food packaging, despite mounting evidence showing that some people are exposed to potentially dangerous levels of phthalates.

Seventeen years ago, the largely self-policing safety review board of the cosmetics industry, the Cosmetics Industry Review, or CIR, published a safety assessment concluding that phthalates "are safe for topical application in the present practices of use and concentrations in cosmetics." On June 18, 2002, the expert panel of the CIR voted to update this review. Considering the breadth of what has been learned of phthalate toxicity and human exposures in the past 17 years, The CIR decision to re-review is a responsible and hopeful step that should serve as a signal to the cosmetics industry.

Phthalates are dangerous

More than two decades ago, scientists began building a body of work indicating that phthalates like DEHP and DBP can be a powerful reproductive and developmental toxicant in laboratory animals, particularly for males. Early studies focused on phthalates' ability to cause testicular atrophy (e.g., Gray et al 1980), but phthalates are now known to cause a broad range of birth defects and lifelong reproductive impairment in laboratory ani-

Table 3. DEP was found in all types of cosmetic products tested

	Total products tested	All phthalates tested	Diethyl phthalate (DEP)	Dibutyl phthalate (DBP)	Butylbenzyl phthalate (BBzP)	Diethylhexyl phthalate (DEHP)	Dimethyl phthalate (DMP)
All products tested	72	72 % (52)	71 % (51)	8 % (6)	6 % (4)	4 % (3)	1 % (1)
Deodorant	14		64 % (9)	14 % (2)			7 % (1)
Fragrance	17	100 % (17)	100 % (17)	12 % (2)	6 % (1)	18 % (3)	
Hair gel	7	86 % (6)	86 % (6)				
Hair mousse	7	57 % (4)	57 % (4)				
Hair spray	18	78 % (14)	72 % (13)	11 % (2)	17 % (3)		
Hand and body lotions	9	22 % (2)	22 % (2)				
Nail polish*	24	67 % (16)	Not tested	67 % (16)	Not tested	Not tested	Not tested

Source: Environmental Working Group compilation of product testing results from Stat Analysis Corporation, Chicago, Illinois.
*All results shown reflect data from laboratory chemical analysis except results for nail polish, which stem from an EWG analysis of nail polish ingredient labels and nail polish patent records.

Phthalate exposures damage the testes, prostate gland, epididymis, penis, and seminal vesicles in laboratory animals.

Most of these effects persist throughout the animal's life.

mals exposed in-utero and shortly after birth (e.g., Ema et al 1998, Marsman et al 1995, Mylchreest et al 1998, 1999, and 2000, Gray et al 1999, Wine et al 1997).

Scientists have shown that phthalates can damage the female reproductive system, but it is the male reproductive system that appears to be more sensitive. Phthalate exposures damage the testes, prostate gland, epididymus, penis, and seminal vesicles in laboratory animals (see, for example, Mylchreest et al 1998). Most of these effects persist throughout the animal's life, and include, specifically:

Testicular atrophy — a defect that leads to reduced capacity to form sperm and male sex hormones;
Hypospadias — a defect of the penis in which the opening occurs on the bottom of the penis instead of the tip;
Undescended testicles — a condition in which the testes fail to descend into the scrotal sac during pregnancy;
Ectopic testes — a condition in which testes are grown outside the scrotal sac;
Absent testes — testes are not formed at all;
Absent prostate gland — the prostate gland contributes liquid secretions to semen;
Absent or small seminal vesicles — these structures, like the prostate gland, contribute liquid secretions to semen;
Reduced sperm count — leads to reduced fertility;
Malformed or absent epididymis — the epididymis is the structure where sperm mature and are stored.

Trends in human male reproductive health include many of the same effects seen in lab animals dosed with phthalates. Although a cause and effect relationship has not been established, the ubiquity of phthalates in the human population vali-

Table 4. DEP is present at very high levels in fragrances

Product type	Product name	Results (parts per million)
DIBUTYL PHTHALATE (DBP)		
Fragrance	The Healing Garden Pure Joy Body Treatment	890
Deodorant	Arrid Extra Extra Dry Ultra Clear Ultra Fresh Spray	200
Fragrance	Poison by Christian Dior	38-260
Hair spray	Aqua Net Professional Hair Spray	160
Deodorant	Arrid Extra Extra Dry Ultra Clear Ultra Clean Spray	140-150
Hair spray	Vidal Sassoon Microfine Mist Hair Spray, Aerosol	55
DIETHYL PHTHALATE (DEP)		
Fragrance	Red Door	28000
Fragrance	Lancome Paris Tresor	25000
Fragrance	White Diamonds Elizabeth Taylor	23000
Fragrance	Charlie Cologne Spray	21000
Fragrance	Wind Song Extraordinary Cologne by Prince Matchabelli	20000
Fragrance	Fire & Ice Cologne Spray	17000
Fragrance	Liz Claiborne Eau De Toilette Spray	14000
Fragrance	Eternity by Calvin Klein	10000
Fragrance	Oscar	9400
Fragrance	Escape by Calvin Klein	8900
Fragrance	The Healing Garden Pure Joy Body Treatment	7300
Fragrance	Calgon Hawaiian Ginger Body Mist	7200
Fragrance	Parfums de Coeur White Tahitian Ginger Fantasy	4200
Fragrance	Poison by Christian Dior	3400-4200
Deodorant	Arrid Extra Extra Dry Maximum Strength Solid	2900-3300
Hair spray	VO5 Crystal Clear 14 Hour Hold	1500
Deodorant	Arrid Extra Extra Dry Ultra Clear Ultra Clean Spray	1100-1200
Deodorant	Arrid Extra Extra Dry Ultra Clear Ultra Fresh Spray	1100
Fragrance	Freedom	570
Hair spray	Redken Cat Finishing Spritz	520
Deodorant	Ban Delicate Powder Roll On	400
Fragrance	Calgon Turquoise Seas Body Lotion	350
Hair spray	Jheri Redding Finishers Flexible Hold Hairspray	320
Hair spray	Aqua Net Professional Hair Spray	250
Hair gel	LA Looks Styling Gel: Extra Super Hold	220
Hair spray	Herbal Essences Non Aerosol Hairspray	210
Hair spray	TRESemme European Freeze-Hold Hair Spray	210
Hair spray	Rave 4x Mega	170

Table 4 (con't).

Product type	Product name	Results (parts per million)
DIETHYL PHTHALATE (DEP) (CONTINUED)		
Deodorant	Degree Original Solid Anti-Perspirant & Deodorant	140
Hair spray	Salon Selectives Hold Tight Style Freeze Maximum Hold Finishing Spray	140
Hair gel	Suave Naturals Ocean Breeze Extra Control Spray Gel	130
Hand and body lotions	Jergens Skincare Original Scent Lotion	80-190
Deodorant	Dove Solid Anti-Perspirant Deodorant	110-110
Hair spray	Pantene Pro V Stronghold Healthy Hold Spray	100-140
Hair spray	Pantene Pro V Strong Hold Spray	84-88
Hair mousse	Pantene Pro V Mousse Body Builder	75
Fragrance	Jovan White Musk	67-67
Deodorant	Secret Powder Fresh Aerosol	63
Hair gel	Pantene Pro V Spray Gel Volumizing Root Lifter	57
Hair spray	Suave Maximum Hold Hairspray Unscented, non-aerosol	53
Hair mousse	Clairol Herbal Essences Styling Mousse Maximum Hold	50
Deodorant	Secret Sheer Dry Regular	49
Hair mousse	Aussie Megahold Mousse	47
Hair mousse	Helene Curtis Salon Selectives Rise Up Volumizing Mousse	38
Hair spray	Suave Naturals Extra Flexible Hold Non Aerosol Hairspray Freesia	35-40
Hair gel	TRESemme European Slick Melting Gel	36
Hair gel	Clairol Herbal Essences Natural Volume Body Boosting Gel	21-57
Hand and body lotions	Nivea Crème	26
Deodorant	Sure Clear Dry Anti-Perspirant & Deodorant	20
Hair spray	Sebastian Collection Shaper Plus	17
Hair gel	Dep Level 4 Shine Gel	14
DIETHYLHEXYL PHTHALATE (DEHP)		
Fragrance	Oscar	14
Fragrance	Fire & Ice Cologne Spray	13
Fragrance	Poison by Christian Dior	0-25
BUTYLBENZYL PHTHALATE (BBzP)		
Hair spray	TRESemme European Freeze-Hold Hair Spray	25
Hair spray	Pantene Pro V Stronghold Healthy Hold Spray	0-46
Hair spray	Sebastian Collection Shaper Plus	11
Fragrance	Poison by Christian Dior	0-29
DIMETHYL PHTHALATE (DMP)		
Deodorant	Secret Sheer Dry Regular	33

Source: Environmental Working Group compilation of product testing results from Stat Analysis Corporation, Chicago, Illinois.

Results from twenty percent of the products tested (14 products) were verified by confirmatory tests run on up to five individual containers of the product. For only two of these products did phthalate occurrence vary: the laboratory found DEHP and BBzP in one of five bottles of Poison by Christian Dior (DEP and DBP were found in all five bottles tested), and found BBzP in 3 of 5 bottles of Pantene Pro V Stronghold Healthy Hold Spray (but all five contained DEP).

dates the notion that phthalates may be contributing to these problems. Until proven safe, phthalates should be considered as potential contributors to the following human health effects:

Declining sperm count: Recent analysis of 101 studies (1934-1996) by Dr. Shanna Swan of the University of Missouri confirms results of previous studies: average sperm counts in industrialized countries are declining at a rate of about one percent each year (Swan et al 2000).

Hypospadias: Data from the Centers for Disease Control show that rates of hypospadias in the U.S. began climbing in about 1970, and continued this increase through the 1980s. This condition is a physical deformity of the penis in which the opening of the urethra occurs on the bottom of the penis instead of the tip. Currently the occurrence of hypospadias appears to be stable, at about 30 to 40 cases per 10,000 births (Paulozzi 1999).

Undescended testicles: This birth defect, where testicles fail to completely descend into the scrotum during pregnancy, occurs in two to five percent of full-term boys in Western countries. Rates of the defect increased in the U.S. in the 1970s and 1980s. Men born with this defect are at higher risk for testicular cancer and breast cancer (Paulozzi 1999).

Testicular cancer: This is the most common cancer of young men in many countries, including the U.S. Its incidence continues to increase at a rate of about two to four percent each year in industrialized countries, although rates appear to have stabilized in the U.S. after a 20-year increase. Men with hypospadias, infertility, and undescended testicles – the same constellation of conditions seen in lab animals exposed to certain phthalates – are at greater risk for developing testicular cancer (Toppari et al 1996 and Moline 2000).

Potent reproductive toxins are not on the label

Altogether, the laboratory found five of seven phthalates in the products tested, at concentrations that varied widely from product to product and from chemical to chemical (Tables 3 and 4). But one thing that did not vary was the lack of labeling: none of the 52 phthalate-containing products listed an individual phthalate chemical on its ingredient list (Clairol's Herbal Essences Non-Aerosol Hairspray unhelpfully lists the general term "isophthalates" on its label).

Three of the five phthalates found by the laboratory are considered relatively potent in their ability to harm the male reproductive system: dibutyl phthalate (DBP), butylbenzyl phthalate (BBzP), and diethylhexyl phthalate (DEHP). The laboratory detected DBP in eight percent of the products tested (six of 72), at substantial concentrations. The lab also found trace levels of

DEHP in some individual bottles of three products (four percent of the products tested), and BBzP in some individual bottles of four products (six percent of the products tested).

The fourth phthalate found by the lab, diethyl phthalate or DEP, is thought to be less potent in its ability to damage the male reproductive system. Yet other considerations keep DEP in the forefront as an issue of potential concern for women. In their Fall 2000 study, CDC scientists reported finding DEP in the body of every women of childbearing age tested (Kohn 2000), at levels they characterized as a "substantial internal human dose" (Blount et al 2000). In product testing, the lab found DEP at by far the highest prevalence and at the highest concentrations of any phthalate detected, with Elizabeth Arden's Red Door fragrance topping the list (at 28,000 parts per million, DEP is almost three percent of the product). All told, 51 of 72 products tested were found to contain DEP.

In this limited survey, DBP and DEP stand out as chemicals of concern, both because of the combination of their prevalence in products, the concentrations at which they are found in both cosmetics and in people's bodies, and because of their links to birth defects in laboratory studies.

A study by the National Toxicology Program showed that DEP can damage the male reproductive system of animals in the womb. Not only did the scientists find reduced sperm concentrations at the highest DEP dose, but they also found abnormally large prostate glands (Lamb et al 1997).

The final phthalate found by the laboratory, dimethyl phthalate or DMP, was detected in one of the 72 products tested (Secret Sheer Dry Regular deodorant). The laboratory did not find diisononyl phthalates (DINP) or di-n-octyl phthalate (DNOP) in any of the 72 products tested.

Taken as a whole, the lab results indicate that a substantial fraction of cosmetics companies may be hiding phthalates on store shelves within the containers of their products, with no warning for pregnant women who might want to avoid purchasing products that contain chemicals linked to birth defects. In this limited survey, DBP and DEP stand out as chemicals of concern, both because of the combination of their prevalence in products, the concentrations at which they are found in both cosmetics and in people's bodies, and because of their links to birth defects in laboratory studies.

Alternatives to phthalates

The cosmetics industry knows how to make products free of phthalates. The limited testing done for **Not Too Pretty** reveals that the same big companies that produce phthalate-laced beauty products, also make similar products without phthalates (Table 4).

Table 5. Almost all major cosmetics companies market some products made without phthalates

Manufacturer or distributor	Products with phthalates	Products with no detected phthalates
Alberto-Culver	TRESemme European Freeze-Hold Hair Spray	
	TRESemme European Slick Melting Gel	
	VO5 Crystal Clear 14 Hour Hold	
The Andrew Jergens Company	Ban Delicate Powder Roll On (deodorant)	Curel Soothing Hands Moisturizing Hand Lotion
	Jergens Skincare Original Scent Lotion	
AM Cosmetics, Inc.	Wet N Wild Crystalic Calcium Enriched Nail Color	
	Wet N Wild Nail Color	
	Tropez Nail Enamel	
Avon Products, Inc.	Avon beComing Radiant Long Last Nail Gloss	
Beiersdorf, Inc.	Nivea Crème (hand and body lotion)	Eucerin Dry Skin Therapy Original Moisturizing Lotion
Carter-Wallace	Arrid Extra Extra Dry Maximum Strength Solid	
	Arrid Extra Extra Dry Ultra Clear Ultra Clean Spray	
	Arrid Extra Extra Dry Ultra Clear Ultra Fresh Spray	
Chesebrough-Ponds USA	Oil of Olay Nail Laquer	Vaseline Intensive Care Advanced Healing
		Vaseline Intensive Care Dry Skin Lotion
Clairol	Clairol Herbal Essences Natural Volume Body Boosting Gel	
	Clairol Herbal Essences Styling Mousse Maximum Hold	
	Herbal Essences Non Aerosol Hairspray	
Colgate-Palmolive		Lady Speed Stick Soft Solid Anti-Perspirant
Conair	Jheri Redding Finishers Flexible Hold Hairspray	
Coty	Calgon Hawaiian Ginger Body Mist	
	Calgon Turquoise Seas Body Lotion	
Del Laboratories, Inc.	Jovan White Musk	Naturistics 90 Second Dry! Super Fast Nail Color
	The Healing Garden Pure Joy Body Treatment (fragrance)	
	Naturistics Super Shine Nail Gloss	
	Sally Hansen Teflon Tuff Nail Color	
	Sally Hansen Hard as Nails With Nylon Nail Polish	
Elizabeth Arden	Sally Hansen Hard as Nails Nail Polish	
	Sally Hansen Chrome Nail Makeup	
	Red Door (fragrance)	
	White Diamonds Elizabeth Taylor (fragrance)	
Gillette		Soft & Dri Anti-Perspirant Deodorant Clear Gel
Kiss Products, Inc.		Kiss Colors Nail Polish
L'Oreal	Lancome Paris Tresor (fragrance)	L'Oreal Paris Studio Line: Springing Curls Mousse
	Redken Cat Finishing Spritz (hair spray)	L'Oreal Jet-Set Quick Dry Nail Enamel
	Maybelline Ultimate Wear Nail Enamel	Maybelline Shades of Your Nail Color
	Maybelline Express Finish Fast-Dry Nail Enamel	L'Oreal Jet Set Nail Enamel

Table 5 (con't).

Manufacturer or distributor	Products with phthalates	Products with no detected phthalates
Liz Claiborne Cosmetics	Liz Claiborne Eau De Toilette Spray (fragrance)	
Los Angeles Research	LA Looks Styling Gel: Extra Super Hold	
Louis Vuitton	Poison by Christian Dior (fragrance)	Urban Decay nail polish
Neutrogena		Neutrogena Hand Cream
Numark Labs		Certain Dri Anti-Perspirant Roll-On
OPI	OPI Nail Laquer	
Orly International, Inc.	Orly Salon Nails Nail Color	
	Orly Salon Nails French Manicure	
Oscar de la Renta	Oscar (fragrance)	
Parfum de Coeur	Parfums de Coeur White Tahitian Ginger Fantasy (fragrance)	
Procter & Gamble	Cover Girl NailSlicks	Physique Extra Control Structuring Gel
	Pantene Pro V Mousse Body Builder	Secret Anti-Perspirant & Deodorant Platinum Protection Ambition Scent
	Pantene Pro V Spray Gel Volumizing Root Lifter	
	Pantene Pro V Strong Hold Spray	
	Pantene Pro V Stronghold Healthy Hold Spray	
	Secret Sheer Dry Regular (deodorant)	
	Secret Powder Fresh Aerosol (deodorant)	
	Sure Clear Dry Anti-Perspirant & Deodorant	
	Vidal Sassoon Microfine Mist Hair Spray, Aerosol	
Redmond Products	Aussie Megahold Mousse	Aussie Mega Styling Spray
Revlon	Charlie Cologne Spray	Revlon Super Top Speed (nail polish)
	Fire & Ice Cologne Spray	Revlon Nail Enamel
Schwarzkopf & DEP	Dep Level 4 Shine Gel (hair gel)	
Tommy Hilfiger	Freedom (fragrance)	
Unilever HPC	Aqua Net Professional Hair Spray	Dove Powder Anti-Perspirant Deodorant
	Degree Original Solid Anti-Perspirant & Deodorant	Finesse Touchables Silk Protein Enriched Mousse
	Dove Solid Anti-Perspirant Deodorant	Helene Curtis Finesse Touchables Silk Protein Enriched (hair spray)
	Escape by Calvin Klein (fragrance)	Helene Curtis Thermasilk Heat Activated Firm Hairspray
	Eternity by Calvin Klein (fragrance)	Helene Curtis Thermasilk Heat Activated Mousse for Fine/Thin Hair
	Helene Curtis Salon Selectives Rise Up Volumizing Mousse	Suave Naturals Aloe Vera Extra Hold Hairspray
	Rave 4x Mega (hair spray)	Suave Naturals Sun Ripened Moisturizing Body Lotion
	Salon Selectives Hold Tight Style Freeze Maximum Hold Finishing Spray	
	Suave Maximum Hold Hairspray Unscented, non-aerosol	
	Suave Naturals Extra Flexible Hold Non Aerosol Hairspray Freesia	
	Suave Naturals Ocean Breeze Extra Control Spray Gel	
	Wind Song Extraordinary Cologne by Prince Matchabelli	
Warner-Lambert		Lubriderm Skin Therapy Moisturizing Lotion
Wella Group	Sebastian Collection Shaper Plus (hair spray)	

Source: Environmental Working Group compilation of product testing results from Stat Analysis Corporation, Chicago, Illinois.
*All results shown reflect data from laboratory chemical analysis except results for nail polish, which stem from an EWG analysis of nail polish ingredient labels and nail polish patent records.

Unilever make hair sprays with (Salon Selectives and Aqua Net) and without phthalates (Thermasilk and Suave).

L'Oreal markets Jet Set nail polish without DBP but puts the phthalate in its Maybelline brand.

Procter & Gamble sells Secret Sheer Dry deodorant with phthalates and Secret Platinum Protection Ambition Scent without phthalates.

Louis Vuitton has taken phthalates out of its Urban Decay nail polish but still has these dangerous chemicals in Christian Dior nail polish and the fragrance Poison.

Chemicals that can damage the development and future fertility of babies don't belong in products designed to make women feel more attractive. Particularly for companies that have phthalate-free formulations in place, a move toward complete phthalate-free product lines should be achievable.

What Women Can Do

Go to www.nottoopretty.org to send your "Label today and remove tomorrow" message to the Food and Drug Administration (FDA), the Cosmetics Ingredients Review Panel and the major manufacturers of beauty products marketed to women of child-bearing age.

The next time you go to the drug store, take along **Not Too Pretty's** list of products that do and don't contain phthalates. But remember, just because a product isn't on the list doesn't mean it's free of phthalates. And show your list to the store manager. Ask for their help in convincing cosmetics companies to get phthalates out of their products.

The next time you have a medical appointment, take along **Not Too Pretty** as well as the comprehensive study on phthalates in medical products called **Aggregate exposures to phthalates in humans** (HCWH 2002). Give them to your health care provider and talk with them about phthalates in medical products.

What the FDA Should Do

Using authority over "poisonous and deleterious substances" given them under the Food, Drug, and Cosmetics Act, the FDA must prohibit the marketing of all cosmetics used by women of childbearing age that contain chemicals like phthalates known to cause birth defects.

The FDA must follow that action with a thorough, probability-based safety assessment that considers aggregate exposure to phthalates from all relevant food, drugs, medical devices, cosmetics, and consumer products, and that makes use of and is consistent with CDC biomonitoring data.

What the Cosmetics Ingredients Review (CIR) Should Do

The CIR should base their new safety assessment of phthalates in cosmetics on recent scientific findings of multiple government agencies (e.g., FDA 2001 and Blount et al 2000), and consider-aggregate doses and cumulative effects from exposures to multiple phthalates with common mechanisms and health endpoints. The CIR should sponsor studies of occupational exposures for the more than 400,000 people who work in beauty salons and nail parlors in the U.S.

The CIR should conduct a comprehensive survey across the industry to define the occurrence of phthalates in individual personal care products, and provide this data to the FDA for use in an aggregate risk analysis.

The CIR should urge cosmetics manufacturers to immediately label all phthalate-containing products while they work to reformulate and transition to phthalate-free products.

What Manufacturers Should Do

Companies should publicly pledge to voluntarily remove phthalates from their products, starting with those likely to cause the greatest exposure and those marketed to children and women of childbearing age.

Manufacturers should label all phthalate-containing products on a label that can be read easily before purchase.

Manufacturers should test cosmetics ingredients and final products, using a complete battery of health and safety studies equivalent to what is required for food additives, and market only those products that meet rigorous, comprehensive safety standards.

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