



Clean, Green & Healthy

Choosing Safer Household and
Personal Care Products



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Breast Cancer Coalition of Rochester | March 26, 2014

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Rochester Institute of Technology (RIT)**

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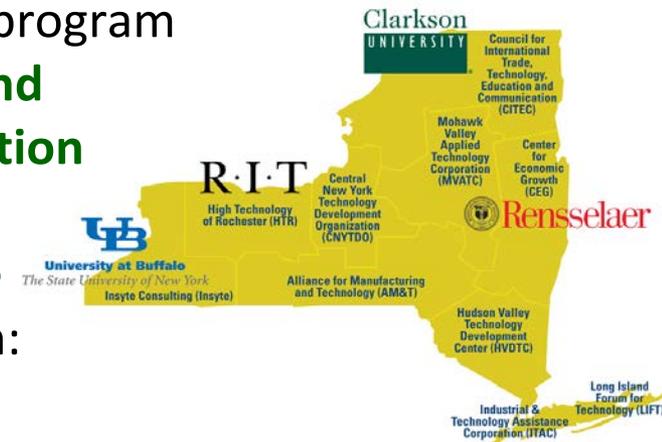


New York State Pollution Prevention Institute

The vision of the NYSP2I is to **foster the transformation and development of sustainable businesses and organizations in NYS** in a collaborative program committed to making the State a leader in environmental stewardship.

The mission of the Institute is to provide a high-impact, comprehensive and integrated program of **technology research development and diffusion, outreach, training and education aimed at making New York State more sustainable for workers, the public, the environment and the economy** through:

- reductions in toxic chemical use
- reductions in emissions to the environment and waste generation
- efficient use of raw materials, energy and water





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Agenda

- Why should we be concerned about environmental health?
- Product safety regulations
- Chemicals that have been found in products
 - The concern
 - Products that contain them
 - How we are exposed
 - Actions you can take
- Product resources



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Why should we be concerned about environmental health?



We are exposed to hundreds of chemicals every day – children are exposed to some chemicals more than adults and exposed to chemicals that adults may not be exposed to

Chemicals enter our body – breathe them in, they pass through our skin, or we eat them – and many are stored in body fat

Exposure linked to health effects
Children are more vulnerable & at higher risk of suffering effects than adults



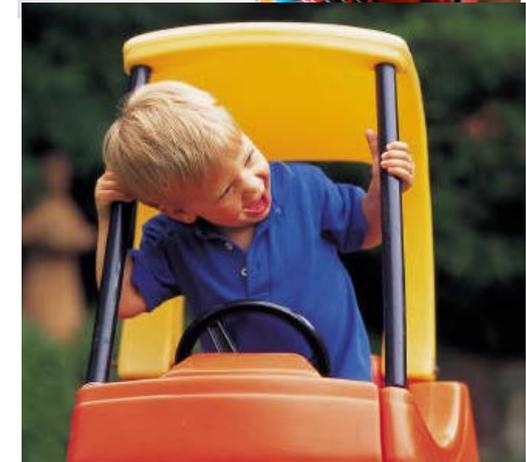


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Product Safety Regulations

- Companies do not have to disclose to consumers what is in toys and other children's & consumer products
- Consumer Product Safety Commission
 - Protects the public from unreasonable risk from consumer products
 - Protects from products that pose fire, electrical, chemical, or mechanical hazard or can harm children
 - Operates voluntary recall program
- CPSC can't test products before sale to ensure they are safe



US Consumer Product Safety Commission, <http://www.cpsc.gov/>

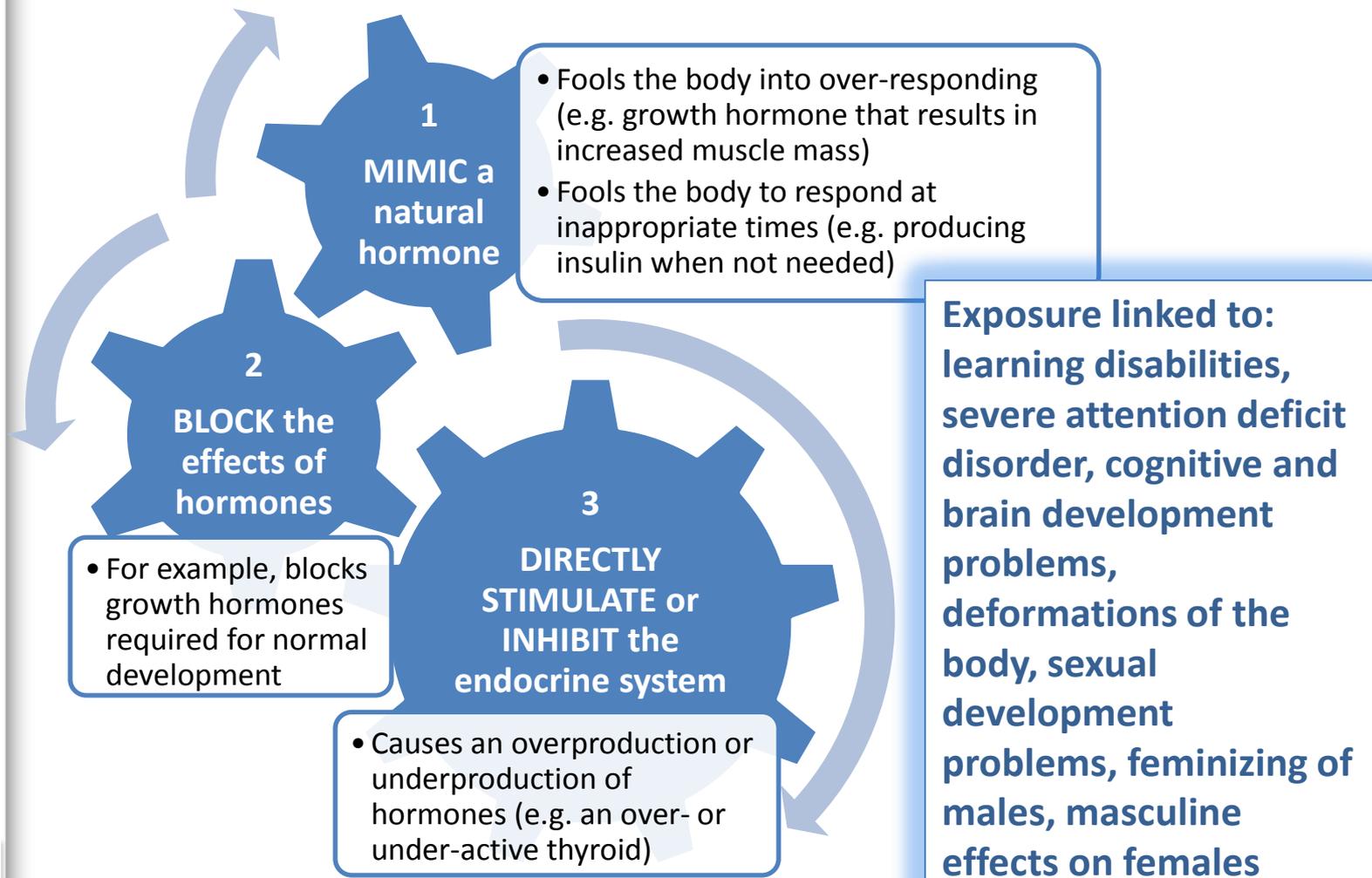


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Endocrine Disruption

Disruption of the endocrine system can occur in various ways



US EPA What are endocrine disruptors? <http://www.epa.gov/endo/pubs/edspoverview/whatare.htm>



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Link to Breast Cancer

Studies have shown a **link between exposure to endocrine disruptors and breast cancer**

- Lifetime exposures to estrogen increases risk^{1,2}
- Exposure to non-natural estrogen may increase risk^{3,4}

Chemicals in everyday products are linked to endocrine disruption

- **Phthalate & paraben exposure** is associated with numerous reproductive health and developmental problems^{6,9}
 - Exposure to diethyl phthalate may be associated with an increased risk of BC in premenopausal women⁵
- **Brominated flame retardants** have been shown to bind to and activate estrogen receptors⁷
- **Lead, mercury, and polybrominated diphenyl ethers** are associated with a greater likelihood of early menarche⁸

¹Davis DL: Hormones, hormone metabolism, environment, and breast cancer: A workshop on the National Action Plan on Breast Cancer's Etiology Working Group. *Envir Health Persp* 1997, 105(Suppl 3):557.

²Tirona MT, Sehgal R, Ballester O: Prevention of breast cancer (Part I): epidemiology, risk factors, and risk assessment tools. *Cancer Invest* 2010, 28:743-750.

³European Commission: State of the Art assessment of endocrine disruptors. http://ec.europa.eu/environment/endocrine/documents/studies_en.htm.

⁴Soto AM, Sonnenschein C: Environmental causes of cancer: endocrine disruptors as carcinogens. *Nat Rev Endocrinol* 2010, 6:363-370.

⁵López-Carrillo et al., Exposure to phthalates and breast cancer risk in northern Mexico, *Environmental Health Perspectives*, 118:4, April 2010

⁶NIEHS, Phthalates: the Everywhere Chemical, http://www.niehs.nih.gov/research/supported/assets/docs/j_q/phthalates_the_everywhere_chemical_handout_.pdf#search=phthalates

⁷Lgler & Brouwer, Are brominated flame retardants endocrine disruptors?, *Environment International*, 29 (2003) 879-885

⁸Denham et al., Relationship of lead, mercury, Mirex, dichlorodiphenyldichloroethylene, hexachlorobenzene, and polychlorinated biphenyls to timing of menarche among Akwesasne Mohawk girls, *Pediatrics*, 2005:115; e127, 1/14/05

⁹NIEHS, Supplemental Material for Endocrine Disruptors and Asthma-Associated Chemicals in Consumer Products, <http://ehp.niehs.nih.gov/wp-content/uploads/120/7/ehp.1104052.s001.pdf#search=paraben%20endocrine%20disruption>



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Flame Retardants

What are they?

- **Chemicals** added to plastics & foam products to make them less likely to catch fire and burn
- **Children's exposure may be greater than adult's**
- They are not chemically bound to the flame retardant, so they can more easily enter the environment
 - We are typically exposed through **aging and wear of consumer products** and **direct exposure from use**
 - We **inhale them or ingest dust** that contains them

Bromine is toxic to the liver, brain, reproductive system & may affect thyroid function

High levels of antimony can cause fertility problems and lung cancer in animals

Chlorinated compounds may cause cancer; damage to the liver, kidney, brain, and testes; and reproductive harm



United States Environmental Protection Agency, PBDEs, <http://www.epa.gov/oppt/pbde/>
ATSDR ToxFAQs, <http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=900&tid=183>

CDC, Fourth National Report on Exposure to Environmental Chemicals, <http://www.cdc.gov/exposurereport/pdf/FourthReport.pdf>

National Resources Defense Council, Smarter Living: Chemical Index Tris--TDCP, TCEP, <http://www.nrdc.org/living/chemicalindex/tris.asp>



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Flame Retardants

What products typically contain them?

- **Foam:** couch cushions & upholstered furniture, car seats, carpet padding, molded foam children's products
- **Fabrics:** upholstered furniture, curtains, children's sleepwear
- **Electronics:** the outer case of TVs, video game consoles, DVD players, computers, etc.





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Flame Retardants

What are the concerns?

Human Health Concerns

- PBDEs have been **found in house dust**
- Animal studies and detection of PBDEs in human tissue, blood, and breast milk raise concern for **potential health hazards**:
 - Liver toxicity
 - Disruption of thyroid function
 - Developmental toxicity
 - Neurobehavioral effects in children
 - Toxic to the brain & reproductive system
- Studies have not shown they cause cancer
- Studies have shown they **bind to and activate estrogen receptors**¹
- **Stored in fat once absorbed**



Environmental Concerns

- Persistent in the environment & bioaccumulate in the food chain

United States Environmental Protection Agency, PBDEs, <http://www.epa.gov/oppt/pbde/>

ATSDR ToxFAQs, <http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=900&tid=183>

CDC, Fourth National Report on Exposure to Environmental Chemicals, <http://www.cdc.gov/exposurereport/pdf/FourthReport.pdf>

¹Lgler & Brouwer, Are brominated flame retardants endocrine disruptors?, Environment International, 29 (2003) 879-885



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Flame Retardants

Actions you can take

- ✓ Opt for **materials that may not contain flame retardants**, like leather, wool, or cotton
- ✓ When purchasing **electronics**, choose from brands that do not contain or are committed to phasing out brominated & chlorinated flame retardants
- ✓ **Wash foam products & covers regularly** with soap and water
- ✓ Avoid children **chewing on electronic products**, including toys
- ✓ **Vacuum** your home regularly with a HEPA filter
- ✓ **Dust** your home regularly
- ✓ **Inspect and replace** foam items when they start to rip, tear, or degrade



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Phthalates

What is the concern?

- Group of chemicals commonly used as a **softener in PVC plastic** & components of **fragrance** in scented products
- Not bound to plastic so they can leach out
 - **Ingested** when we eat with dirty hands or children chew on plastic
 - **Breathe** when it offgasses from plastic
 - **Breathe or absorb** from scented products
- Controversial health effects, many are **known/suspected endocrine disruptors**
- **Lead, cadmium, mercury, & arsenic** are common PVC stabilizers



ASTDR, ToxFQAQs, DEHP <http://www.atsdr.cdc.gov/toxfags/tf.asp?id=377&tid=65>

US EPA, Phthalates Action Plan , <http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/phthalates.html>

Campaign for Safe Cosmetics, Phthalates, <http://safecosmetics.org/article.php?id=290>

USCDC, Fourth National Report on Human Exposure to Environmental Chemicals, 2009, <http://www.cdc.gov/exposurereport/pdf/FourthReport.pdf>



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Phthalates

How are we exposed?

- People are mainly exposed through **eating and drinking foods** contaminated from their storage containers
 - **Diet** is the main source, particularly fatty foods
- Phthalates are **highly soluble in oils** – leach at a higher rate when in contact with oils & fats (think food storage containers)
- **Heat** increases leaching
- Exposure is greater when **containers/material starts to show signs of wear and break down**
- Used at concentrations of **less than 10% in nail polish, hair spray, and solvents & perfumes** in other products
- **Soft toys** typically contain 15-20% phthalates

CDC, *National Report on Human Exposure to Environmental Chemicals*, Phthalates Fact Sheet

ASTDR, ToxFAQs, DEHP <http://www.atsdr.cdc.gov/toxfaqs/faq.asp?id=377&tid=65>

US EPA, Phthalates Action Plan, <http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/phthalates.html>

Campaign for Safe Cosmetics, Phthalates, <http://safecosmetics.org/article.php?id=290>

USCDC, Fourth National Report on Human Exposure to Environmental Chemicals, 2009, <http://www.cdc.gov/exposurereport/pdf/FourthReport.pdf>

US FDA, Phthalates and Cosmetic Products, <http://www.fda.gov/Cosmetics/ProductandIngredientSafety/SelectedCosmeticIngredients/ucm128250.htm>



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Phthalates

What types of products contain them?

- **Products made from PVC**, such as plastic clothing/fabrics, vinyl decals & fabric, upholstery, floor tiles, food packaging, children's products, adhesives, school & office supplies
 - Vinyl flooring contains DEHP that offgasses from the floor - difficult to measure amount, PVC flooring is associated with increased levels of phthalates in house dust
 - Soft toys typically contained 15-20% phthalates
- **Personal care products**, cosmetics & nail polish
- **Scented products**

More example products

- PVC & vinyl plastics, rubber, pesticides, adhesives, glue, caulk
- Soft plastic – bath toys, squeeze toys, teething rings, dolls
- Vinyl fabric – shower curtains, backpacks, binders
- Vinyl fabric coatings – decals, bibs, doll clothes
- Personal care & body products – hair spray, perfumes, cosmetics, nail polish, lotions
- Food containers & plastic wrap (Glad & Saran wraps are phthalate free)
- Foamed PVC – flooring material



US EPA, Green Building: Bedroom, <http://www.epa.gov/greenhomes/bedroom.htm>

US EPA, Environmentally Preferable Purchasing, Greening Your Purchase of Carpet, <http://www.epa.gov/epp/pubs/carpets2.htm>



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Commonly Used Phthalates and their Potential Effects

Common Uses	Potential Effects
DEHP [di(2-ethylhexyl)phthalate]	
wall coverings, tablecloths, floor tiles, furniture upholstery, shower curtains, garden hoses, swimming pool liners, rainwear, baby pants, dolls, toys, shoes, automobile upholstery, packaging film, wire & cable sheathing, medical tubing, blood storage bags ^a	Limited evidence of reproductive toxicity ^b Strong evidence of endocrine disruption ^c Respiratory toxicant ^d Possible human developmental toxicant ^e
DBP (di-n-butyl phthalate)	
carpets, paints, glue, insect repellents, hair spray, nail polish, and rocket fuel ^a	Human immune system toxicant ^b Strong evidence of endocrine disruption ^c Possible human developmental toxicant ^e Limited evidence of reproductive toxicity ^b
Diethyl phthalate	
toothbrushes, automobile parts, tools, toys, food packaging, cosmetics, insecticides, and aspirin ^a	Human immune system toxicant ^b Strong evidence of endocrine disruption ^c Limited evidence of reproductive toxicity ^b
Dimethyl phthalate (DMP)	
Dye carrier, plasticizer in hair spray, plasticizer in PVC, used in the past as a pesticide ^f	Human immune system toxicant ^b Limited evidence of reproductive toxicity ^b

^a Agency for Toxic Substances and Disease Registry, Public Health Statements

^b National Library of Medicine, HazMap — Occupational Exposure to Hazardous Agents

^c European Commission on Endocrine Disruption

^d EPA, Hazardous Air Pollutants

^e California, Proposition 65

^f US Hazardous Substances Data Bank



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Phthalates

Prenatal exposure

Studies have linked prenatal exposure to problems in children:

- 3yo: decreases in psychomotor development, decrease in girl's mental development, increase in behavioral problems¹
- 4-9yo: poor parent rated behavior; linked to aggression, attention problems, conduct problems, depression, ADHD, & externalizing problems²
- 4-7yo: reduced masculine play in boys, no association with girls³
- 7-9yo: poor social cognition, communication, awareness⁴



1 Whyatt, R., et. al., Maternal Prenatal Urinary Phthalate Metabolite Concentrations and Child Mental, Psychomotor, and Behavioral Development at 3 years of age, *Env Health Persp*, 120:2, Feb 2012

2 Engel, S, et. al., Prenatal Phthalate Exposure is Associated with Childhood Behavior and Executive Functioning, *Env Health Persp*, 118:4, April 2010.

3 Swan, S., Prenatal phthalate exposure and reduced masculine play in boys, *Int J Androl*, 2010 April, 33(2): 2590269

4 Miodovnik, A, et. al., Endocrine Disruptors and Childhood Social Impairment, *Neurotoxicity*, 2011 March; 32(2): 261-267.



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Phthalates

Risk to Children

- Children are at **especially high risk as they mouth things**
- **Infants may have greater exposures from ingesting indoor dust**
- Phthalates can **be transferred through breast milk** from mom to baby
- **Six phthalates were banned/restricted in 2009 from children's products**
 - Children's toys & articles limit DEHP, DBP, & BBP at 0.1%
 - Products in a child's mouth limit DINP, DIDP, and DnOP at 0.1%
- Toys may contain DINP, DIDP, and DnOP
 - Most may cause **endocrine disruption** or **affect reproduction**
 - May affect the **ability to have children** or **cause birth defects**
- Banned/restricted phthalates may be children's products/toys **made before 2009**

examples of teething rings made from safer materials



beech & maple



natural rubber



silicone

US CPSC, Toxicity of Di(isodecyl) phthalate, April 7, 2010, <http://www.cpsc.gov/PageFiles/126534/toxicityDIDP.pdf>

US CPSC, Toxicity of Di-n-octyl phthalate, March 8, 2010, <http://www.cpsc.gov/PageFiles/126540/toxicityDNOP.pdf>

European Council for Plasticisers and Intermediates (ECPI), DINP information center, <http://www.dinp-facts.com/default.aspx?page=56>



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Phthalates

Actions you can take

- X** Avoid **plastic with #3 or PVC** identification
- X** Avoid products labeled “**vinyl**”
- ✓** Choose products labeled **phthalate, vinyl, and/or PVC free**
- ✓** **Air out vinyl products** before bringing them into your home
- ✓** Choose **shower curtains** made from safer plastics (ie. EVA or PEVA) or fabric
- ✓** Choose **toys** made of safer plastics, wood, organic fabric, cloth
- ✓** Choose **PVC free school & office supplies**





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Fragrance

What is the concern?

- We are exposed to a lot of scented products – personal care, cleaners, air fresheners, laundry soap, etc.
- Usually made up of a blend of chemicals
- May be from natural or synthetic sources



Phthalates

Solvents/carriers for chemicals that create the scent
Also in nail polish & moisturizers

Look for *fragrance, -phthalate, parfum* on the product label

Linked to diabetes and asthma, potential **risks to reproductive system** & thyroid

Musks

Man-made chemicals that replicate musk scents originally obtained from deer & ox

Look for *fragrance, synthetic musk, musk* on the product label

Potential hormone disruptors that may **break down the body's defenses against other chemicals**



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Fragrance

How are we exposed?

- **Breathe it in** – perfume, cleaners, air freshener, scented candles, other airborne products
- It is **absorbed through the skin** – shampoo, soap, lotion, other personal care products, laundry soap on clothes & bed sheets

Can hide many chemicals as the composition does not have to be disclosed on the label

During use, fragrance can become airborne and is easily inhaled

Nearly 38% of Americans report adverse effects when exposed to some kind of fragranced product^a

^aCaress SM, Steinemann AC. State University of West Georgia (2004). Prevalence of multiple chemical sensitivities: a population-based study in the southeastern United States. *American Journal of Public Health*. 2004 May;94(5):746-7. PubMed.gov. PMID: 15117694 [PubMed - indexed for MEDLINE] PMID: PMC1448331

Environmental Health Association of Nova Scotia, Guide to Less Toxic Products, <http://www.lesstoxicguide.ca/index.asp?fetch=household>
EPA <http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/phthalates.html>

Campaign for Safe Cosmetics, <http://safecosmetics.org/article.php?id=643>



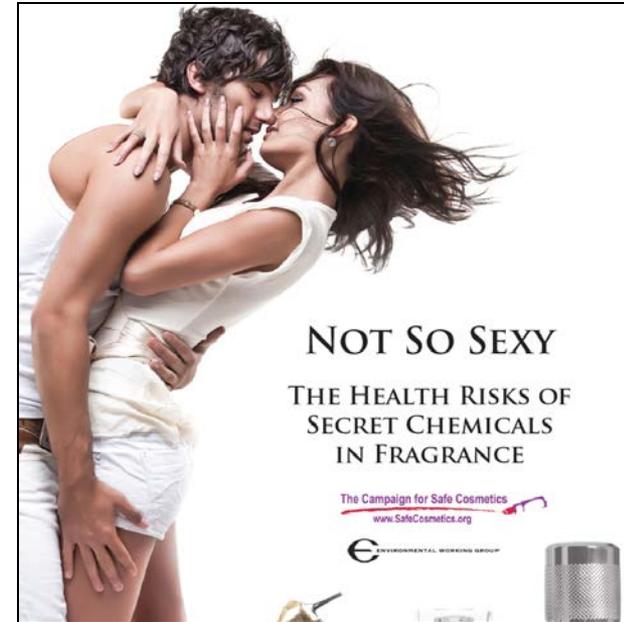
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Perfume

Environmental Working Group & Campaign for Safe Cosmetics tested 17 name brand fragrances in 2010 & found:

- 24 chemical sensitizers
- 12 hormone disrupting chemicals
- 38 chemicals detected that were not listed on the product label



	Average for all 17 fragrances	Extreme product (highest number)
Chemical ingredients (tested + labeled)	29	40 - Giorgio Armani Acqua Di Gio
Secret chemicals (found in testing, not on label)	14	24 - American Eagle Seventy Seven
Sensitizing chemicals (can trigger allergic reactions)	10	19 - Giorgio Armani Acqua Di Gio
Hormone disruptors (can disrupt natural hormones)	4	7 - Halle by Halle Berry, Quicksilver, Jennifer Lopez J. Lo Glow
Chemicals not assessed for safety (by government or industry)	12	16 - Chanel Coco, Halle by Halle Berry, American Eagle Seventy Seven

Source: EWG analysis of 91 chemicals in 17 products – including 51 chemicals listed on product labels, and 38 unlabeled chemicals found in tests commissioned by the Campaign for Safe Cosmetics – combined with analysis of chemical hazard and toxicity data from government and industry assessments and the published scientific literature.



Fragrance

Actions you can take

- ✗ Avoid products with “-phthalate”, “musk”, “parfum”, or “fragrance” as an ingredient
- ✗ Avoid air fresheners and scented candles
- ✓ Choose fragrance free products labeled “free of perfumes and dyes,” “fragrance free”, or “unscented”
- ✓ Use **homemade unscented** cleaners & personal care products
- ✓ Choose **naturally scented** products





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Personal Care Products

Use in the US

- On average, women use 12 products containing 168 ingredients every day
- Men use 6 products with 85 ingredients
- Children are exposed to an average of 61 ingredients daily



EWG (Environmental Working Group). 2004. Exposures Add Up – Survey Results. <http://www.ewg.org/skindeep/research/exposures.php>.

EWG (Environmental Working Group). 2007. Safety Guide to Children's Personal Care Products. <http://www.ewg.org/skindeep/special/parentsguide/summary.php>

Body Burden



PERFUME

Avg no. of chemicals: 250
Possible side effects: mouth, throat, and eye irritation; nausea; linked to kidney damage

SHAMPOO

Avg no. of chemicals: 15
Possible side effects: irritation, eye damage

FAKE TAN

Avg no. of chemicals: 22
Possible side effects: rashes, irritation, hormone disruption

DEODORANT

Avg no. of chemicals: 15
Possible side effects: eye, skin, & lung irritation; headache; dizziness; respiratory problems

NAIL VARNISH

Avg no. of chemicals: 31
Possible side effects: fertility issues and problems in developing babies

BODY LOTION

Avg no. of chemicals: 32
Possible side effects: rashes, irritation, hormone disruption

HAIRSPRAY

Avg no. of chemicals: 11
Possible side effects: allergies, irritation to eyes, nose, and throat; hormone disruption

EYESHADOW

Avg no. of chemicals: 26
Possible side effects: linked to cancer, infertility; hormonal disruptions and damage to the body's organs

BLUSH

Avg no. of chemicals: 16
Possible side effects: rashes, irritation, hormonal disruption

FOUNDATION

Avg no. of chemicals: 24
Possible side effects: allergies, disrupts immune system, links to cancer

LIPSTICK

Avg no. of chemicals: 33
Possible side effects: allergies, links to cancer



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Preservatives

- Prevent bacteria from growing in water based products
- **Parabens** are the most widely used preservatives and the most common parabens are methyl-, ethyl-, and butyl-
- Studies have detected parabens in breast tumors but it's unclear whether the presence leads to cancer



Parabens

Look for *methyl, ethyl, propyl, butyl parabens* on product labels

Found in moisturizers, face & skin cleansers, shampoo, conditioner, sunscreen, toothpaste, makeup

Linked to cancer, **endocrine disruption**, reproductive toxicity, immunotoxicity, neurotoxicity, skin irritation





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Preservatives

- **Formaldehyde** is used as a preservative & is an impurity released by a number of cosmetic preservatives
- About 20% of cosmetics & PCPs in the US contain a formaldehyde releasing chemical



Formaldehyde & Formaldehyde Releasing Preservatives

Look for DMDM hydantoin, diazolidinyl urea, Quaternium-15, bronopol, imidzaolodinyln urea, formalin, formic aldehyde, merthaldehyde, methanal on labels

FORMALDEHYDE has been found in nail treatment, nail polish, eyelash glue

DMDM HYDANTOIN has been found in shampoo, conditioner, styling gel/lotion, body wash, moisturizer...

DIAZOLIDINYL UREA has been found in conditioner, styling gel, foundation, moisturizer...

QUATERNIUM-15 has been found in eye shadow, facial powder, blush, foundation, body wash, mascara, baby & adult shampoo, conditioner...

Known human carcinogen, asthmagen, neurotoxicant, developmental toxicant
Can cause allergic skin reactions



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Antimicrobial

- Kills or slows the growth of bacteria
- **Triclosan** is commonly used in consumer products



Triclosan

Look for *triclosan* on the product label

Found in antibacterial soap, toothpaste (to prevent gingivitis), deodorant, face & body wash, cosmetics, mouthwash, and other consumer products

Linked to thyroid function and emergence of bacteria resistant to antibacterial products, studies show it's interaction with hormone receptors

Toxic to aquatic bacteria at levels found in the environment and inhibits photosynthesis in algae

December 2013 - The US FDA issued a proposed rule to **require manufacturers of antibacterial hand soaps and body washes to demonstrate their products are safe for long-term daily use and more effective than plain soap and water in preventing illness and the spread of certain infections.** If companies do not demonstrate such safety and effectiveness, these products would need to be reformulated or relabeled to remain on the market.

FDA, Triclosan: What Consumers Should Know, <http://www.fda.gov/forconsumers/consumerupdates/ucm205999.htm>

FDA News Release, FDA issues proposed rule to determine safety and effectiveness of antibacterial soaps, <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm378542.htm>



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Anti-Dandruff

- **Coal tar** is a by-product of the distillation of coal to produce coke or gas
- Active ingredient in OTC products



Coal Tar

Look for *tar, coal; coal tar solution; carbo-cort; coal tar solution usp; coal tar, aerosol; crude coal tar; estar; impervotar; KC 261; lavatar; picis carbonis; aminophenol; diaminobenzene; phenylenediamine* on product labels

May be found in prescription & non prescription preparations to treat skin conditions, such as cleansing bars, gels, lotions, shampoos, and other topical solutions; ointments (1-10% coal tar) prescribed for psoriasis; shampoos to treat dandruff; ointments to treat eczema; hair dye

Known human carcinogen

Linked to cancer, endocrine disruption, reproductive toxicity, immunotoxicity, neurotoxicity, skin irritation



Antiperspirant & Deodorant

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- **Aluminum** compounds slow the flow of sweat
 - Usually listed as *Aluminum Zirconium Tetrachlorohydrate GLY*
- Controversial research: *There is no conclusive research linking the use of underarm antiperspirants or deodorants and the subsequent development of breast cancer.*
 - Some research suggests that aluminum-based compounds may be absorbed by the skin and cause estrogen-like effects
 - Some scientists suggest that aluminum-based compounds may contribute to the development of breast cancer
- Alternatives: aluminum free products, reduced aluminum content



National Cancer Institute at the National Institute of Health, Antiperspirants/Deodorants and Cancer, <http://www.cancer.gov/cancertopics/factsheet/Risk/AP-Deo>
Aluminum content percentages from the product labels



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Nail Polish

- May contain the “toxic trio”: dibutyl phthalate, toluene, and formaldehyde
- DBP is prohibited in cosmetics in Europe because it’s a possible human reproductive or developmental toxin¹
- USEPA restricts toluene in drinking water because it can cause nervous system disorders and damage the liver and kidneys²
- Formaldehyde is “known to be a human carcinogen”³



Dibutyl phthalate (DBP)	Toluene	Formaldehyde
Adds flexibility Moisturizing sheen Helps dissolve other ingredients	Helps suspend color Forms a smooth finish	Found in nail hardeners
Reproductive & developmental toxin, linked to feminizing effects in boys	Can cause headaches, dizziness, fatigue and is a possible reproductive & developmental toxin	Known carcinogen; irritates the eyes, nose, and throat; can cause skin irritation

¹EC (European Commission of the European Union). 1999-2006. Enterprise Directorate-General Pharmaceuticals and Cosmetics. The rules governing cosmetic products in the European Union, Volume 1, "Cosmetics legislation."

² US EPA, Technical Factsheet on Toluene, <http://www.epa.gov/ogwdw/pdfs/factsheets/voc/tech/toluene.pdf>

³ US National Toxicology Program, Report on Carcinogens, 12th Edition, 2011, <http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf>
Campaign for Safe Cosmetics, Nail Products & Salons, <http://safecosmetics.org/article.php?id=224>



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Nail Polish

- Look for brands that advertise as “three free” on the product packaging or company website
- May contain other ingredients of concern

Sally Hansen

ULTA
BEAUTY

REVLON

essie

ORLY

butter
LONDON

O·P·I
The World Leader in Professional Nail Care

three free brands

Organic Solvents	Acrylics	Prevents Chipping
<p>Xylene: toxic by all routes of exposure, can cause headache, dizziness, skin and eye irritation, kidney and liver impairment¹; very persistent in air²</p>	<p>Methyl methacrylate: vapors irritate eyes, nose, and throat; irritates skin¹; toxic to fish²</p>	<p>Benzyl acetate: irritating to skin, eyes, and respiratory tract¹; toxic to fish, very persistent in air²</p>
<p>Methyl ethyl ketone: vapors irritate eyes, nose & throat¹; very persistent in air²</p>	<p>Ethyl methacrylate: vapors irritate eyes and respiratory system, irritates skin¹; toxic to fish²</p>	
<p>Acetone: vapors irritate eyes, nose, and throat¹; very persistent in air²</p>		

¹ National Library of Medicine, Hazardous Substances Data Bank, <http://toxnet.nlm.nih.gov>

² PBT Profiler, <http://www.pbtprofiler.net>



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Cosmetics

Product	Common ingredients	Ingredient concerns
Blush	Talc, powdered silica, alumina, coal tar dyes, acrylates, parabens	Neurotoxic, strong irritants, endocrine disruptors
Mineral makeup	Bismuth oxychloride	Irritate sensitive skin, cause redness & itching
Face powder	Talc, powdered silica, coal tar dyes , quaternium-15 , lanolin, fragrances , parabens , triclosan	Can release formaldehyde , allergic reactions, skin irritation, endocrine disruption
Foundation	Talc, powdered silica, alumina, octenylsuccinate, mineral oil, TEA, parabens , quaternium-15 , fragrance , coal tar dyes	Neurotoxic, irritate skin, promote acne, may contain formaldehyde , endocrine disruption
Concealer	Propylene glycol , polyethylene glycol , parabens , retinyl palmitate, may be contaminated with 1,4-dioxane and ethylene oxide	Skin irritants, endocrine disruption , cause gene mutations & damage DNA, contaminants are suspected & known carcinogens
Eyeshadow	Coal tar dyes , talc, powdered silica, BHA, parabens Cream: mineral oil, petrolatum, & lanolin oil Glitter: aluminum or bronze	Carcinogens , endocrine disruptors Creams: allergens Glitter: linked to cancer & neurotoxic effects
Mascara	Petroleum distillates , phenoxyethanol, propylene glycol, TEA, parabens , synthetic plastics, BHA	Skin & eye irritation, endocrine disruption , immune system toxicant
Lipstick	Coal tar dyes , parabens , sunscreen chemicals, fragrance	Skin irritation, endocrine disruption

Environmental Health Association of Nova Scotia, Guide to Less Toxic Products, <http://lesstoxicguide.ca/index.asp?fetch=personal>



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Ingredients in Children's Personal Care Products

2007 survey of 3,300 parents to identify the personal care products their children use



The survey found

Infants are exposed to **45 chemicals every day** & 40% have not been found safe for kids

82% are exposed to 1+ ingredients linked to **brain and nervous system damage**

69% are exposed to 1+ **endocrine disruptor**

4% are exposed to 1+ ingredients linked to **cancer**

41% of products warn "keep out of reach of children"



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Case Study: J&J Baby Shampoo

- March 2009: Compact for Safe Cosmetics reports that Johnson's baby shampoo contains **2 cancer causing chemicals**
- October 2011: J&J to phase out the carcinogenic preservatives from baby products
- January 2014: cancer causing preservatives replaced, will start seeing the product on store shelves in first half of 2014



Campaign for Safe Cosmetics, <http://safecosmetics.org/article.php?id=887#timeline>
J&J Statement, http://safecosmetics.org/downloads/JJ_Statement_Oct312011.pdf

Revising a Formula for Baby Shampoo

Responding to pressure from consumers' groups, Johnson & Johnson revised the ingredients in its baby shampoo to remove a formaldehyde-releasing preservative called quaternium-15.



Johnson's No More Tears Baby Shampoo

OLD FORMULATION

Ingredients: Water, Cocamidopropyl Betaine, PEG-80 Sorbitan Laurate, Sodium Trideceth Sulfate, PEG-150 Distearate, Fragrance, Tetrasodium EDTA, Polyquaternium-10, Quaternium-15, Sodium Hydroxide, Citric Acid, Yellow 10, Orange 4.

REMOVED:

Quaternium-15 a formaldehyde-releasing preservative



NEW FORMULATION

Ingredients: Water, PEG-80 Sorbitan Laurate, Cocamidopropyl Betaine, Sodium Trideceth Sulfate, PEG-150 Distearate, Phenoxyethanol, Glycerin, Citric Acid, Fragrance, Sodium Benzoate, Tetrasodium EDTA, Polyquaternium-10, Ethylhexylglycerin, Sodium Hydroxide, Potassium Acrylates Copolymer, Yellow 6, Yellow 10.

ADDED:

Potassium Acrylates Copolymer

helps maintain proper shampoo thickness

Phenoxyethanol, Sodium Benzoate and Ethylhexylglycerin

components of the new preservative system

Glycerin

helps with moisturization



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Personal Care Products

Alternatives

- **Paraben, triclosan, fragrance, phthalate-free products**
 - Price varies from cost competitive to significantly more
 - Performance varies from better than to not as good as conventional counterparts
 - Consider products without these ingredients may **perform differently** – ie. shampoo without sodium lauryl sulfate will not be as foamy
 - Consider if the **ingredient is necessary** – ie. Does hand/body soap have to be antimicrobial? Does face soap have to be pH balanced? Does the scent matter?
- **Antiperspirant/deodorant with lower levels of aluminum or aluminum free**
 - Many lower level & aluminum free versions are cost competitive
 - Consider **performance** of products with less aluminum
- **Nail polish without DBP, toluene, formaldehyde**
 - Cost competitive
 - Function as good as if not better than polish with these ingredients



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Personal Care Products

What you can do

- Eliminate **unnecessary products**
- Prioritize **high exposure, frequently used products** for replacement
- Choose **organic products**
- Buy from **companies you trust**
- **Make** your own products
- Choose products **without harsh chemicals**
 - Shampoos & body washes without SLS, phthalates, parabens
 - Lotions without parabens
 - Nail polish without the toxic trio
 - Skip perfume & antibacterial products
- Use **tools** to help you choose safer products



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California Safe Cosmetics Program Product Database



Click here to search the database



What is the California Safe Cosmetics Program Product Database?

The California Safe Cosmetics Act (the Act) requires companies that manufacture cosmetics to report any cosmetics products that contain ingredients known or suspected to cause cancer, birth defects, or other reproductive harm. The California Safe Cosmetics Program (CSCP) collects this data and makes it available to the public through this website.

Are you curious to see what ingredients have been reported for your shampoo? Want to compare the ingredients of different sunscreens? You can search the database for a **type of product**; a **specific product name**; or a **brand or company name**.

You can also read more about chemical ingredients, learn about how chemical exposure can affect your health, or learn more about the California Safe Cosmetics Program by clicking on links to the right.

More information on the California Safe Cosmetics Program website.

California Safe Cosmetics Program Product Database

<https://www.safecosmeticsact.org/search/>

- CA Act requires companies to report cosmetics products sold within the state that contain ingredients known or suspected to cause cancer, birth defects, or other reproductive harm.
- Search by product, chemical, or company

Which [chemical ingredients](#) have been reported to the CA Safe Cosmetics Program?

What do these search results mean - and other [FAQ topics](#)

- [About the Program](#)
- [How to Search the Database](#)
- [Questions about Products and Search Results](#)
- [More about Cosmetics](#)
- [Introduction to Toxicology](#)
- [Glossary of Terms](#)

Is this website
Check the compatibility vi





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California Safe Cosmetics Program Product Database



Product Name: Dove Beauty Bar (all variants)

Reported By: Conopco, Inc.
Brand: Dove
Category: Bath Products - Body Washes and Soaps
Date Reported: 10/9/2009
Updated On: 6/30/2010

Ingredients reported for this product include:

Chemical Name	Date Reported	Date Removed *
Titanium dioxide	10/9/2009	

* If a product has been reformulated and the reported ingredient removed from the product, "Date Removed" refers to the date of reformulation.

The cosmetics ingredients listed here were reported to the California Safe Cosmetic Program (CSCP). Not all information has been verified. Reporting is required regardless of the amount of the ingredient in the product. Inclusion of a product in this database does not necessarily mean that it has been shown to cause harm. For more on which companies are required to report to the CSCP and the chemicals included in the CA Safe Cosmetics Act, please refer to the FAQ section of this website.

**Search for products,
chemicals, or companies:**

Click to search...

What do these search results mean - and other [FAQ topics](#)

- [About the Program](#)
- [How to Search the Database](#)
- [Questions about Products and Search Results](#)
- [More about Cosmetics](#)
- [Introduction to Toxicology](#)
- [Glossary of Terms](#)
- [Website Organization](#)
- [Additional Resources](#)

For cosmetic companies:

Report products through the [CSCP Online Reporting System](#)



Do your purchases meet your personal standards?



Create your filter and find out...

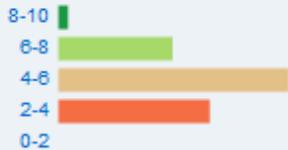
Get started

Purchase Analyzer ▲

Home » Categories » Personal Care » Bath, Shower & Soap » Soap

Best Soap Ratings

Rating Distribution



See All Ratings →

Related Categories

- Personal Care (100635)
- Skin Care (26479)
- Face Care (8123)
- Bath, Shower & Soap (8084)
- Medicine Cabinet (2172)

More Categories

Products

Rating Methodology

Comments ()

Share

Our scientists have rated 3,476 Soap products

GoodGuide scientifically rates the health, environmental, and social performance of products and companies

GoodGuide

<http://www.goodguide.com/>

Top Rated



8.6

Sever Clean

10

Health

8.7

Envirc

7.1

Sociel

- Search for personal care products & other consumer products by name
- Search for product types, companies, ingredients
- Products have 3 ratings: health, environment, society
- Rating system: 0 worst – 10 best

8.5

Method Gel Hand Wash,

2.1

Garden Botanika Verbena



6.2

Scientific Rating

Dove White Bar Soap - 2-4.25 Oz

Rank: 250 out of 1,642 Bar Soaps · Company: Unilever Home & Personal Care



6.0

Health

This product has insufficient ingredient information.

6.0

Human Health Impacts

7.0

Level of Health Concern of Ingredients

LOW CONCERN

[Lauric Acid](#)

[Cocamidopropyl Betaine](#)

[Tetrasodium EDTA](#)

6.0

Data Adequacy, Ingredient Disclosure



6.5

Environment

This company's environmental policies, practices and performance place it among the best 25% of companies rated by GoodGuide.



6.2

Society

This company's social policies, practices and performance place it among the best 10% of companies rated by GoodGuide.



Skin Deep is Mobile!

Get critical information about your personal care products right at your fingertips!



🔍 Search more than 73,000 products...

Search

Smarter Choices, Healthier Living

Coming This Spring: EWG's 2014 Sunscreen Guide

Companies: To have your sunscreen products included in this year's guide email skindeep@ewg.org for submission instructions.

The deadline for submitting your formulations is March 21.

EWG's Healthy Living Corner



Quick Tips for Safer Cosmetics



EWG's Guide to Healthy Cleaning

Featured Res



SkinDeep Cosmetics Database

<http://www.ewg.org/skindeep>

- Search for personal care products by name
- Search for personal care product types, companies, ingredients
- Tips & ingredient facts
- Rating system: 0 best – 10 worst

Why Skin Deep®?

3 Why Skin Deep®?

4 Myths on cosmetic safety

5 User's guide to Skin

Score:

S
4Data available: ● Limited

Product Summary

Ingredient Concerns

Animal Testing?

Label Information

Where to Purchase

Discuss This Product

Data last updated:

July 2013

Get The Guide!

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Dove White Beauty Bar

See all: [Unilever](#) [Dove](#) [bar soap](#)

Ingredient Concerns:

low moderate high

Overall Hazard



Cancer



Developmental & reproductive toxicity



Allergies & immunotoxicity



Use restrictions



Other HIGH concerns: Multiple, additive exposure sources, Miscellaneous, Occupational hazards; **Other MODERATE concerns:** Contamination concerns, Irritation (skin, eyes, or lungs), Organ system toxicity (non-reproductive); **Other LOW concerns:** Enhanced skin absorption, Data gaps, Ecotoxicology

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1

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0

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Ingredient Concerns

Ingredient	Concerns	Score
<u>FRAGRANCE</u>	Ecotoxicology, Allergies/immunotoxicity, Irritation (skin, eyes, or lungs), Miscellaneous, Organ system toxicity (non-reproductive)	8

S
8

Data: Fair

Ingredient Concerns

Sign Up!

Stay informed by signing up to receive email tips, action alerts and more from EWG.

Ingredient	Concerns	Score
<u>FRAGRANCE</u>	Ecotoxicology, Allergies/immunotoxicity, Irritation (skin, eyes, or lungs), Miscellaneous, Organ system toxicity (non-reproductive)	 Data: Fair
<u>COCAMIDOPROPYL BETAINE</u>	Ecotoxicology, Allergies/immunotoxicity, Contamination concerns (<u>COCAMIDOPROPYL DIMETHYLAMINE</u> , <u>3-DIMETHYLAMINOPROPYLAMINE</u> , <u>NITROSAMINES</u> -in the presence of nitrosating agents), Use restrictions	 Data: Fair
<u>TITANIUM DIOXIDE</u>	Organ system toxicity (non-reproductive), Occupational hazards	 Data: Fair
<u>SODIUM PALMITATE</u>	Ecotoxicology, Multiple, additive exposure sources	 Data: Limited
<u>TETRASODIUM EDTA</u>	Enhanced skin absorption, Organ system toxicity (non-reproductive), Occupational hazards	 Data: Fair



▶ [Advanced Search](#)

[Search](#)



EWG's Guide to Sunscreens

<http://www.ewg.org/2013sunscreen/>

- Rates the safety and efficacy of 1,800 SPF products
- Products with high ratings provide broad spectrum, long lasting protection, with ingredients that pose low human health concerns
- Anticipate 2014 released mid-May

Pick the best

[See All Products](#)

Beach & Sports
Sunscreens

Moisturizers
with SPF

Lip Balms
with SPF

Make Up with
SPF

Coming This Spring: EWG's 2014 Sunscreen Guide

Companies: To have your sunscreen products included in this year's guide, email skindeep@ewg.org for submission instructions. The deadline for submitting your formulations is March 21.



EWG's Guide to Healthy Cleaning

Safety ratings for more than 2,000 products.

 **Top Products**

Find greener cleaners for household needs [→](#)

 **Label Decoder**

Translate technical terms and ad hype [→](#)

 **About this Report**

EWG looked beyond labels to rate products [→](#)

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- Products:**
- [Air Fresheners \(2 / 1\)](#)
 - [All Purpose \(416\)](#)
 - [Bathroom \(21 / 1\)](#)

 **EWG's Guide to Healthy Cleaning Update Center**

Sun & Earth Update

Date posted: 2013-04-03

EWG is updating the Guide to Healthy Cleaning information from Sun & Earth.

Guide to Healthy Cleaning
<http://www.ewg.org/guides/cleaners>
Search for cleaning products by name
Search for cleaning product types
Search for companies
Search for ingredients

Green Homes for Cleaner Lakes



WEBINAR WORKSHOP SERIES – MARCH & APRIL 2014

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To register, email greenhomes@rit.edu

March 18

How Green is Your Clean?



April 2
Hazardous Waste at Home



March 26

Safer Household Products



April 9
Potential Hidden Dangers of Personal Care Products



The **Green Homes for Cleaner Lakes brochure** is available for download and distribution!

*This trifold brochure summarizes **key concepts** and **Actions You Can Take** from all four of the workshops – green cleaning, household hazardous waste, safer household products, and personal care products.*

To request printed copies to distribute through your organization, contact Bonnie at 585-475-2512 or bswasp@rit.edu.

