Potential Hidden Dangers of Personal Care Products

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New York State Pollution Prevention Institute
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Disclaimer

Any opinions, findings, and conclusions or recommendations expressed in this presentation and/or discussion do not necessarily reflect the views of the New York State Pollution Prevention Institute (NYSP2I), the New York State Department of Environmental Conservation (NYSDEC), or the US Environmental Protection Agency (EPA).
Agenda

• Personal care product safety in the US
• Potential EHS effects of personal care products
• Ingredients of concern in personal care products
  – Where are they found?
  – Why are they used?
  – Why are they a concern?
  – Ways to limit our and the environment’s exposure
• Children’s personal care product use
• Ecofriendly products
• Safe Cosmetics Act of 2011
• Resources for more information
How Green is Your Clean?
Are the products you use to clean your house affecting your health? Learn about the household cleaning product choices you have to make your home clean and safe for your family.

Safer Household Products
What do cookware, food storage containers, light bulbs, and furniture have in common? All may affect your health and the environment! Learn more about these and other everyday products, your options, and how to limit your exposure. Make better choices without sacrificing your budget!

Hazardous Waste@Home
Ever wonder what to do with unwanted paint cans, batteries, and pharmaceuticals? Not sure what to do with outdated computers? Protect your family and pets by learning how to store and dispose of hazardous waste found in your home!

Potential Hidden Dangers of Personal Care Products
What's really in your deodorant, perfume, or makeup? How safe are your personal care products? Learn more about the ingredients in everyday products that can affect your health and the environment.

Funding provided by the US Environmental Protection Agency Great Lakes Restoration Initiative in the amount of $104,192 and by the NYS Pollution Prevention Institute through a grant from the NYS Department of Environmental Conservation.
Areas of Concern

- There are 30 areas of concern in the US Great Lakes.
- These are places where chemical contamination of sediments from the lakes has seriously endangered the quality of life for people and wildlife.
- There are 6 AOCs in NYS:
  - Buffalo River
  - EighteenMile Creek
  - Niagara River
  - Oswego River/ Harbor
  - Rochester Embayment
  - St. Lawrence River at Massena

"Safer Chemicals Healthy Families." *Failing the Great Lakes.* (2009)
# Beneficial Use Impairments

<table>
<thead>
<tr>
<th>Buffalo Area</th>
<th>Syracuse Area</th>
<th>Rochester Area</th>
<th>Massena Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buffalo River</strong></td>
<td><strong>Oswego River/ Harbor</strong></td>
<td><strong>Rochester Embayment</strong></td>
<td><strong>St. Lawrence River</strong></td>
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<td>2. Fish tumors or other deformities</td>
<td>2. Degradation of fish and wildlife populations</td>
<td>2. Eutrophication or undesirable algae</td>
<td>2. Loss of fish and wildlife habitat</td>
</tr>
<tr>
<td>5. Restriction on dredging activities</td>
<td>5. Beach closings</td>
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<td>5. Degradation of benthos and habitats</td>
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<td><strong>Eighteen Mile Creek</strong></td>
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PCP Safety in the US

• Personal care products & cosmetics are regulated by the FDA
• Cosmetics & ingredients are not tested by the FDA before sale
  – US: 11 chemicals banned/limited
  – Europe: 1,100 chemicals banned/limited
• Companies responsible for ensuring the safety of products before they go to market

Ingredients Prohibited & Restricted by FDA Regulations,
http://www.fda.gov/Cosmetics/ProductandIngredientSafety/SelectedCosmeticIngredients/ucm127406.htm
Europe List of Substances Prohibited in Cosmetics Products,
PCP Safety in the US (cont)

- FDA does not have authority to recall products containing a toxic chemical
- Example: Brazilian Blowout
  - Salon workers & customers began complaining of breathing problems, headache, dizziness, rashes
  - Investigation found formaldehyde
  - Formaldehyde is a known carcinogen
- FDA has yet to limit formaldehyde

FDA Recall Policy for Cosmetics, [http://www.fda.gov/Cosmetics/ProductandIngredientSafety/RecallsAlerts/ucm173559.htm](http://www.fda.gov/Cosmetics/ProductandIngredientSafety/RecallsAlerts/ucm173559.htm)
FDA Letter to Brazilian Blowout, 8/22/11, [http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm270809.htm](http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm270809.htm)
PCP 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

Body Burden

PERFUME
Avg number of chemicals: 250
Possible side effects: mouth, throat, and eye irritation; nausea; linked to kidney damage

SHAMPOO
Avg number of chemicals: 15
Possible side effects: irritation, possible eye damage

FAKE TAN
Avg number of chemicals: 22
Possible side effects: rashes, irritation, hormonal disruption

DEODORANT
Avg number of chemicals: 15
Possible side effects: eye, skin, and lung irritation; headache; dizziness; respiratory problems

BODY LOTION
Avg number of chemicals: 32
Possible side effects: rashes, irritation, hormonal disruption

NAIL VARNISH
Avg number of chemicals: 31
Possible side effects: linked to fertility issues and problems in developing babies

HAIRSPRAY
Avg number of chemicals: 11
Possible side effects: allergies, irritation to eyes, nose, and throat; hormone disruption

EYESHADOW
Avg number of chemicals: 26
Possible side effects: linked to cancer, infertility; hormonal disruptions and damage to the body’s organs

BLUSH
Avg number of chemicals: 16
Possible side effects: rashes, irritation, hormonal disruption

FOUNDATION
Avg number of chemicals: 24
Possible side effects: allergies, disrupts immune system, links to cancer

LIPSTICK
Avg number of chemicals: 33
Possible side effects: allergies, links to cancer

http://www.dailymail.co.uk/femail/beauty/article-1229275/Revealed--515-chemicals-women-bodies-day.html
Environmental Effects

- PCPs end up in the environment when they are rinsed down the drain
- Studies have shown PCP ingredients are in our water bodies and more research is needed to determine the extent of harm they cause
- Reasons for concern:
  - Large quantities enter the environment after use
  - There are no municipal sewage treatment plants that are engineered to remove PCPs from water
  - The risks posed are uncertain because the concentrations are low
  - In 2007, over 100 different PCPs were identified in environmental samples and drinking water

US EPA, Pharmaceuticals and Personal Care Product FAQs, [http://www.epa.gov/ppcp/faq.html](http://www.epa.gov/ppcp/faq.html)
US EPA, Beaches, [http://water.epa.gov/type/oceb/beaches/seasons_2010_ny.cfm#duration](http://water.epa.gov/type/oceb/beaches/seasons_2010_ny.cfm#duration)
Personal Care Products (PCPs)

- **Cleansing**: soap, body wash, shampoo, conditioner, bubble bath, toothpaste, mouthwash, etc.
- **Hair styling**: spray, gel, pomade, etc.
- **Shaving**: cream, gel
- **Moisturizing**: face & body lotion
- **Nail**: polish, remover
- **Perfume**, cologne, body spray, etc.
- **Deodorant and antiperspirant**
- **Cosmetics**: foundation, concealer, mascara, eyeshadow, eyeliner, lipstick, lip gloss, etc.
How to read a PCP label

• What’s required on a PCP label:
  – Quantity in the container
  – Identity statement
  – Name of the manufacturer & distributor
  – Warning & caution statements
  – Ingredients

• Ingredients listed from highest to lowest quantity

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

<table>
<thead>
<tr>
<th>Parabens</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Look for</strong> methyl, ethyl, propyl, butyl parabens on product labels</td>
</tr>
<tr>
<td><strong>Found in</strong> moisturizers, face &amp; skin cleansers, shampoo, conditioner, sunscreen, toothpaste, makeup</td>
</tr>
<tr>
<td><strong>Linked to</strong> cancer, endocrine disruption, reproductive toxicity, immunotoxicity, neurotoxicity, skin irritation</td>
</tr>
</tbody>
</table>

FDA Parabens, [http://www.fda.gov/Cosmetics/ProductandIngredientSafety/SelectedCosmeticIngredients/ucm128042.htm](http://www.fda.gov/Cosmetics/ProductandIngredientSafety/SelectedCosmeticIngredients/ucm128042.htm)
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

<table>
<thead>
<tr>
<th>Look for</th>
<th>Description</th>
</tr>
</thead>
</table>

**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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Antimicrobials

• 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

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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 News Release, FDA issues proposed rule to determine safety and effectiveness of antibacterial soaps, [http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm378542.htm](http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm378542.htm)
Fragrance

- Add scents to cosmetics and personal care products
- Usually made up of a blend of chemicals
- Can hide many chemicals as the composition does not have to be disclosed on the label

<table>
<thead>
<tr>
<th>Phthalates</th>
<th>Synthetic musks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look for <em>fragrance, -phthalate</em> on the product label</td>
<td>Look for <em>fragrance, synthetic musk, musk</em> on the product label</td>
</tr>
<tr>
<td>Found in fragrance</td>
<td>Found in fragrance</td>
</tr>
<tr>
<td>Also found in nail polish and moisturizers (helps chemicals absorb into the skin)</td>
<td></td>
</tr>
<tr>
<td>Linked to diabetes and asthma, potential risks to reproductive system &amp; thyroid</td>
<td>Linked to endocrine disruption, bioaccumulates</td>
</tr>
</tbody>
</table>

Agency for Toxic Substances and Disease Registry, Public Health Statements
Skin Conditioner

• **Propylene glycol** is commonly used as a skin conditioner
• Is also used as a fragrance ingredient, solvent, and humectant (provides moisture)
• Penetration enhancer

<table>
<thead>
<tr>
<th>Propylene Glycol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Look for</strong> propylene glycol, 1,2-propanediol, methylethyl glycol, 1,2-propylene glycol on labels</td>
</tr>
<tr>
<td><strong>Has been found in</strong> conditioner, styling gel/lotion, shampoo, hair color, moisturizer, foundation, anti-aging, mascara, body wash, facial cleanser, hair spray, eye liner…</td>
</tr>
<tr>
<td><strong>Known</strong> skin irritant</td>
</tr>
<tr>
<td><strong>Environment Canada</strong> classifies it as “expected to be toxic or harmful”</td>
</tr>
<tr>
<td><strong>Cosmetics Ingredient Review Assessment</strong> deems “safe for use in cosmetics with some qualifications”</td>
</tr>
</tbody>
</table>

Anti-Dandruff

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

<table>
<thead>
<tr>
<th>Coal Tar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Look for</strong> 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</td>
</tr>
<tr>
<td><strong>May be found in</strong> prescription &amp; 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</td>
</tr>
<tr>
<td><strong>Known human carcinogens</strong></td>
</tr>
<tr>
<td>Linked to cancer, endocrine disruption, reproductive toxicity, immunotoxicity, neurotoxicity, skin irritation</td>
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Colorants

- Metals are traditionally used to give cosmetics & PCPs color

<table>
<thead>
<tr>
<th>Products contained the metal(^1)</th>
<th>Potential effects(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0% mercury</td>
<td>neurotoxin</td>
</tr>
<tr>
<td>14% selenium</td>
<td>high exposure can cause neurological effects, brittle hair &amp; deformed nails</td>
</tr>
<tr>
<td>20% arsenic</td>
<td>long term exposure causes kidney damage in animals</td>
</tr>
<tr>
<td>51% cadmium</td>
<td>damages the kidneys, lungs, and bones</td>
</tr>
<tr>
<td>61% thallium</td>
<td>large amounts cause vomiting, diarrhea, temporary hair loss, and effects on the nervous system, lungs, heart, liver, and kidneys</td>
</tr>
<tr>
<td>90% beryllium</td>
<td>may become sensitive to beryllium, which causes inflammatory reaction in the respiratory system</td>
</tr>
<tr>
<td>96% lead</td>
<td>damage the nervous system, kidneys, and reproductive system</td>
</tr>
<tr>
<td>100% nickel</td>
<td>contact may cause an allergic skin reaction</td>
</tr>
</tbody>
</table>

\(^1\)Environmental Defense, Heavy Metal Hazard: The Health Risks of Hidden Heavy Metals in Face Make up, May 2011, http://environmentaldefence.ca/sites/default/files/report_files/HeavyMetalHazard%20FINAL.pdf

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Lipstick & Lead

- FDA limit for lead in colorants used in cosmetics, typically 20ppm
- FDA 2010 survey of 400 lipsticks
  - Average lead concentration 1.11 ppm
  - Results ranged from the detection limit of 0.026 ppm to 7.19 ppm

FDA: Is there a safety concern about the lead levels FDA found in lipsticks? No. We have assessed the potential for harm to consumers from use of lipstick containing lead at the levels found. Lipstick, as a product intended for topical use with limited absorption, is ingested only in very small quantities. We do not consider the lead levels we found in the lipsticks to be a safety concern. The lead levels we found are within the limits recommended by other public health authorities for lead in cosmetics, including lipstick.

CDC: no threshold for adverse health effects in young children has been demonstrated (no safe blood level has been identified), all sources of lead exposure for children should be controlled or eliminated.

Antiperspirant & Deodorant

- **Aluminum** compounds slow the flow of sweat
  - Usually listed as *Aluminum Zirconium Tetrachlorohydrex 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
  - Estrogen has the ability to promote the growth of breast cancer cells
  - Some scientists suggest that aluminum-based compounds may contribute to the development of breast cancer
- Alternatives: aluminum free products, reduced aluminum content

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 toxin
- USEPA restricts toluene in drinking water because it can cause nervous system disorders and damage the liver and kidneys
- Formaldehyde is “known to be a human carcinogen”

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

Nail Polish

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

<table>
<thead>
<tr>
<th>Organic Solvents</th>
<th>Acrylics</th>
<th>Prevents Chipping</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Xylene</strong>: toxic by all routes of exposure, can cause headache, dizziness, skin and eye irritation, kidney and liver impairment(^1); very persistent in air(^2)</td>
<td><strong>Methyl methacrylate</strong>: vapors irritate eyes, nose, and throat; irritates skin(^1); toxic to fish(^2)</td>
<td><strong>Benzyl acetate</strong>: irritating to skin, eyes, and respiratory tract(^1); toxic to fish, very persistent in air(^2)</td>
</tr>
<tr>
<td><strong>Methyl ethyl ketone</strong>: vapors irritate eyes, nose &amp; throat(^1); very persistent in air(^2)</td>
<td><strong>Ethyl methacrylate</strong>: vapors irritate eyes and respiratory system, irritates skin(^1); toxic to fish(^2)</td>
<td></td>
</tr>
<tr>
<td><strong>Acetone</strong>: vapors irritates eyes, nose, and throat(^1); very persistent in air(^2)</td>
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\(^2\) PBT Profiler, [http://www.pbtprofiler.net](http://www.pbtprofiler.net)
Sunscreen Regulation Update

New regulations effective 12/17/12:

- **Standards for testing the effectiveness** of sunscreen products and require labeling that accurately reflects test results
- Proposed regulation to **limit the maximum SPF value on sunscreen labeling to “SPF 50+”**

Labeling changes

- Sunscreens with broad protections labeled "Broad Spectrum" and “SPF 15” (or higher)
- Sunscreens that are not broad spectrum or are SPF 2 to 14 have a warning that they have been shown only to prevent sunburn

USFDA, Sheds Light on Sunscreens, http://www.fda.gov/forconsumers/consumerupdates/ucm258416.htm
Sunscreen Labeling According to 2011 Final Rule

If used as directed with other sun protection measures, this product reduces the risk of skin cancer and early skin aging, as well as helps prevent sunburn.

Only products labeled with both "Broad Spectrum" AND SPF15 or higher have been shown to provide all these benefits.

Drug Facts

Active Ingredients
Avobenzone 3%
Homosalate 10%
Octyl methoxycinnamate 7.5%

Uses
- helps prevent sunburn
- if used as directed with other sun protection measures (see Directions), decreases the risk of skin cancer and early skin aging caused by the sun

Warnings
For external use only
Do not use on damaged or broken skin
When using this product keep out of eyes. Rinse with water to remove.
Stop use and ask a doctor if rash occurs
Keep out of reach of children. If product is swallowed, get medical help or contact a Poison Control Center right away.

Directions
- apply liberally 15 minutes before sun exposure
- reapply:
  - after 40 minutes of swimming or sweating
  - immediately after towel drying
  - at least every 2 hours

Sun Protection Measures. Spending time in the sun increases your risk of skin cancer and early skin aging. To decrease this risk, regularly use a sunscreen with a broad spectrum SPF of 15 or higher and other sun protection measures including:
- limit time in the sun, especially from 10 a.m. – 2 p.m.
- wear long-sleeve shirts, pants, hats, and sunglasses
- children under 6 months: Ask a doctor

Inactive ingredients
- aloe extract, barium sulfate, benzyl alcohol, carbaromer, dimethicone, disodium EDTA, jojoba oil, methylparaben, octadedene/MA copolymer, polyglyceryl-3 distearate, phenethyl alcohol, propylparaben, sorbitan isostearate, sorbitol, stearic acid, tocopherol (vitamin E), triethanolamine, water

Other information
- protect this product from excessive heat and direct sun

Questions or comments?
Call toll free 1-800-XXX-XXXX

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Sunscreen Tips

- **Avoid sprays and powders**, as they contain tiny particles that may not be safe to breath and **choose creams** instead

- **Avoid retinyl palmitate** aka Vitamin A, as tumors & lesions develop on skin coated with Vitamin A faster in studies and **oxybenzone**, a synthetic estrogen that penetrates the skin; **choose zinc, titanium, avobenzone or Mexoryl SX**, as they protect from UVA radiation and most remains on the skin

- **Avoid sunscreens with insect repellant** and **purchase separate products** instead

- **Reapply often** as sunscreen breaks down in the sun, washes off, and is rubbed off on towels and clothes

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<table>
<thead>
<tr>
<th>Avoid these</th>
<th>Look for these</th>
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<tbody>
<tr>
<td><strong>Ingredients</strong></td>
<td></td>
</tr>
<tr>
<td>Oxybenzone</td>
<td>Zinc</td>
</tr>
<tr>
<td>Vitamin A (retinyl palmitate)</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td>Added insect repellant</td>
<td>Avobenzone or Mexoryl SX</td>
</tr>
<tr>
<td><strong>Products</strong></td>
<td></td>
</tr>
<tr>
<td>Sprays</td>
<td>Cream</td>
</tr>
<tr>
<td>Powders</td>
<td>Broad spectrum protection</td>
</tr>
<tr>
<td>SPF above 50+</td>
<td>Water resistant for beach, pool &amp; exercise</td>
</tr>
<tr>
<td></td>
<td>SPF 30+ for beach &amp; pool</td>
</tr>
</tbody>
</table>
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
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”

Environmental Working Group, Hazardous and Untested Chemicals in Children’s Products, [http://www.ewg.org/files/Child%27sStudyAttachment.pdf](http://www.ewg.org/files/Child%27sStudyAttachment.pdf)
Case Study: J&J Baby Shampoo

- March 2009: Compact for Safe Cosmetics reports that Johnson’s baby shampoo contains 2 cancer causing chemicals that aren’t listed on the label
- 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
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


Funding provided by the US Environmental Protection Agency Great Lakes Restoration Initiative in the amount of $104,192 and by the NYS Pollution Prevention Institute through a grant from the NYS Department of Environmental Conservation.
Environmental Impact

• Some ingredients take a long time to break down into non-toxic counterparts when they enter the environment
  – The longer a chemical persists, the higher the potential for exposure

• Some ingredients are also toxic to fish

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Days to be removed from water</th>
<th>Days to be removed from sediment</th>
<th>Toxic to Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl paraben (preservative)</td>
<td>90</td>
<td>840 (~2.3yr)</td>
<td>YES</td>
</tr>
<tr>
<td>Triclosan (antibacterial)</td>
<td>360</td>
<td>3240 (~8.8yr)</td>
<td>YES</td>
</tr>
<tr>
<td>Dibutyl phthalate (nail polish, fragrance)</td>
<td>52</td>
<td>468 (~1.3yr)</td>
<td>YES</td>
</tr>
<tr>
<td>Formaldehyde (nail polish, preservative)</td>
<td>90</td>
<td>840 (~2.3yr)</td>
<td>MODERATELY</td>
</tr>
<tr>
<td>Propylene glycol (skin conditioner)</td>
<td>8.7</td>
<td>78 (~1.5mo)</td>
<td>NO</td>
</tr>
<tr>
<td>Oxybenzone (sunscreen)</td>
<td>38</td>
<td>340 (~11mo)</td>
<td>MODERATELY</td>
</tr>
</tbody>
</table>

Data from the US EPA’s PBT Profiler, http://www.pbtprofiler.net

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Eco Friendly Products

- The use of most eco friendly terms are not defined or regulated
- Third party certifications (someone other than the company) are preferable
- Just because a product or ingredient is ‘organic’, doesn’t mean it’s safe!

<table>
<thead>
<tr>
<th>Unregulated terms</th>
<th>Preferable terms &amp; labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Toxic</td>
<td>USDA Organic Label</td>
</tr>
<tr>
<td>Natural</td>
<td>USDA Certified Biobased Product Label</td>
</tr>
<tr>
<td>Eco-friendly</td>
<td>NSF/ANSI 305: Personal Care Products Containing Organic Ingredients with logo</td>
</tr>
<tr>
<td>Eco-healthy</td>
<td>Free of phthalates, sulfates, parabens, etc</td>
</tr>
</tbody>
</table>
What You Can Do

• 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

• Eliminate unnecessary products

• Prioritize high exposure, frequently used products for replacement

• Buy from companies you trust

• Make your own products
Resources for More Information

Understand health & safety of specific products, product classes, and manufacturers

California Safe Cosmetics Program Product Database, http://safecosmeticsact.org/search/

EWG’s SkinDeep Cosmetics Database www.cosmeticsdatabase.com, mobile app available

The GoodGuide, www.goodguide.com , mobile app for iPhone and Android with bar scanner

Information about ingredients and the industry

Cosmetic Ingredient Review http://www.cir-safety.org

US FDA Cosmetics (regulatory & safety information), http://www.fda.gov/Cosmetics/default.htm

Campaign for Safe Cosmetics, http://safecosmetics.org
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 Act, cosmetics in the news, and links to other government agencies overseeing cosmetics are also available through the California Safe Cosmetics Program website.

Is this website not displaying correctly on your screen? Check the compatibility view on your browser. Click here for more information.
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 *
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>10/9/2009</td>
<td></td>
</tr>
</tbody>
</table>

* 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 Cosmetics 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.
Individual Chemical Profile: Titanium dioxide

Also known as: titanium white; Pigment White 6; CI 77891; E171

Source: Titanium dioxide is the oxidized form of titanium. It is naturally occurring in mineral form. It is added to cosmetics, as well as paint, paper, food, plastics, inks, toothpaste, and other products. Manufacturers use titanium dioxide as a pigment to make a product appear white or to make a product opaque (non-transparent). Titanium dioxide can also be used to thicken a product. Sunscreens can contain nanoparticles (very small particles) of titanium dioxide coated with silica or alumina to reflect light away from the skin.

Potential Health Impacts: People may be exposed to titanium dioxide by inhalation or ingestion, depending on the specific product. Studies of rats that inhaled high concentrations of titanium dioxide have found increased rates of respiratory tract cancers. Some scientists believe that consumer exposure to titanium dioxide is low because of the low potential for inhalation of products that are not in powdered form. California Proposition 65 categorizes titanium dioxide as a carcinogen when it is in a form that can be breathed in. The International Agency for Research on Cancer (IARC) lists titanium dioxide in all its forms as an animal carcinogen and a possible human carcinogen.

Toxicologists are evaluating the toxicity of titanium dioxide nanoparticles, which may have different properties than larger particles of titanium dioxide. Studies of mice exposed to titanium dioxide nanoparticles have shown increases in inflammation and genetic damage. IARC has not yet released a specific evaluation for titanium dioxide nanoparticles.

Additional resources:

IARC Information on Titanium Dioxide (PDF)
Funding provided by the US Environmental Protection Agency Great Lakes Restoration Initiative in the amount of $104,192 and by the NYS Pollution Prevention Institute through a grant from the NYS Department of Environmental Conservation.
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<table>
<thead>
<tr>
<th>INGREDIENTS</th>
<th>concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCAMIDOPROPYL BETAIN</td>
<td>Allergies/immunotoxicity, Ecotoxicology, Contamination (NITROSAMINES-in the presence of nitrosating agents), Use restrictions</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Organ system toxicity (non-reproductive), Occupational hazards</td>
</tr>
<tr>
<td>SODIUM PALMITATE</td>
<td>Multiple, additive exposure sources, Ecotoxicology</td>
</tr>
<tr>
<td>TETRASODIUM EDTA</td>
<td>Organ system toxicity (non-reproductive), Enhanced skin absorption, Occupational hazards</td>
</tr>
<tr>
<td>SODIUM TALLOWATE</td>
<td>Ecotoxicology</td>
</tr>
</tbody>
</table>
Our scientists have rated 1,735 Shampoo products

The average U.S. consumer uses about 10 cosmetic products every day, including soap, shampoo, lotions, deodorants and fragrances. These products can contain hundreds of ingredients, and their regular use can result in chronic exposures to low levels of potential hazards. Read below to learn about important issues associated with shampoos, including ingredient concerns, product certifications, and animal testing. Read More

Top Rated

<table>
<thead>
<tr>
<th>Rating</th>
<th>Product Name</th>
<th>Health</th>
<th>Environment</th>
<th>Society</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.5</td>
<td>A Wild Soap Bar Yucca Root Shampoo &amp; ...</td>
<td>10</td>
<td>7.9</td>
<td>7.6</td>
</tr>
<tr>
<td>3.0</td>
<td>CVS Color Protect Moisturizing Shampoo</td>
<td>1.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>8.5</td>
<td>Burt’s Bees Rosemary Mint Shampoo Bar</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bottom Rated

<table>
<thead>
<tr>
<th>Rating</th>
<th>Product Name</th>
<th>Health</th>
<th>Environment</th>
<th>Society</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5</td>
<td>Freeman Papaya Pro-Vita Miracle Shampoo For Ult...</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Funding provided by the US Environmental Protection Agency Great Lakes Restoration Initiative in the amount of $104,192 and by the NYS Pollution Prevention Institute through a grant from the NYS Department of Environmental Conservation.
Choosing Safer Products

<table>
<thead>
<tr>
<th>Product Type</th>
<th>tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soap</td>
<td>Avoid triclosan, triclocarban</td>
</tr>
<tr>
<td>Skin moisturizer &amp; lip products</td>
<td>Avoid retinyl palmitate, retinyl acetate, retinoic acid &amp; retinol in daytime products</td>
</tr>
<tr>
<td>Hand sanitizers</td>
<td>Choose ethanol or ethyl alcohol in at least 60% alcohol</td>
</tr>
</tbody>
</table>
| Sunscreen                             | Avoid SPF>50, retinyl palmitate, aerosol spray, powder, oxybenzone, added insect repellant  
Choose hats & shade, zinc oxide or titanium dioxide as the active ingredient, avobenzone at 3%, apply frequently |
| Hair care                             | Avoid dark permanent hair dyes & chemical hair straighteners         |
| Toothpaste                            | Avoid triclosan                                                      |
| Nail polish                           | Avoid formaldehyde & formalin, hardeners, toluene, dibutyl phthalate |
| Make up                               | Avoid loose powders, vitamin A (listed as retinol, retinyl palmitate, retinyl acetate) in skin & lip products |
| Anti-aging products                   | Avoid alpha & beta hydroxy acids                                    |


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Safe Cosmetics and Personal Care Products Act of 2013

Bill introduced March 21, 2013 designed to give the FDA authority to ensure that personal care products are free of harmful ingredients and that ingredients are fully disclosed through:

1. Phase-out of ingredients linked to cancer, birth defects and developmental harm;
2. Creation of a health-based safety standard that includes protections for children, the elderly, workers and other vulnerable populations;
3. Elimination of labeling loopholes by requiring full ingredient disclosure on product labels and company websites, including salon products and the constituent ingredients of fragrance;
4. Worker access to information about unsafe chemicals in personal care products;
5. Required data-sharing to avoid duplicative testing and encourage the development of alternatives to animal testing; and
6. Adequate funding to the FDA Office of Cosmetics and Colors so it has the resources it needs to provide effective oversight of the cosmetics industry.

H.R. 1385: Safe Cosmetics and Personal Care Products Act of 2013

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Upcoming Events

March 4
How Green is Your Clean?
Are the products you use to clean your house affecting your health? Learn about the household cleaning product choices you have to make your home clean and safe for your family.

Webinar Series
1hr presentation followed by Q&A starting at 2:00 on the dates below

March 18 How Green is Your Clean?
March 26 Safer Household Products

April 2 Hazardous Waste at Home

April 9 Potential Hidden Dangers of Personal Care Products

March 26, 7-9pm
Clean, Green, & Healthy: Choosing Safer Household and Personal Care Products
Learn how to identify and protect yourself and your family from potential health hazards found in products around your home.

Contact NYSP2I at greenhomes@rit.edu to register

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