



Atrazine, one of the most commonly used pesticides in the United States, is found in 80% of U.S. drinking water.<sup>8</sup> In humans there are some data suggesting that Atrazine exposure is associated with low sperm counts in men, hormone disruptions in women, and developmental abnormalities from fetal and infant exposures.<sup>9</sup> That's why the European Union banned Atrazine in 2003.

## CHEMICAL RUN-OFF

Many pollutants released into the environment far upstream from coastlines end up in the ocean. Nitrogen-rich fertilizers applied by farmers inland, for example, make their way across the landscape into the marine environment. This leads to massive blooms of algae that rob the water of oxygen, leaving areas where little or no marine life can exist. Scientists have counted some 400 such dead zones around the world. Other pesticides and chemical pollutants, like those found in oil, sewage, plastics and detergents, take a similar path to the ocean and become food for tiny marine organisms. In this manner, pollutants are introduced into the global food chain, ultimately ending up on your dinner plate.<sup>10</sup>

## AIR POLLUTION

In the United States, close to 200,000 deaths annually are a result of air pollution<sup>11</sup>, and about 147 million Americans (47%) live in areas with levels of air pollutants considered harmful by the federal government.<sup>11</sup> This poor air quality translates into increased asthma rates in children and adults, resulting in missed school and work days, hospital visits, and an estimated \$2 billion in annual costs to the nation.<sup>12</sup>

Los Angeles County is colloquially known as having the worst air quality in the nation. The "State of the Air" report by the American Lung Association confirms this as LA County has the worst ozone in the country.<sup>13</sup> This poor air is due to the sheer number of automobiles, ships, and airliners that frequent the LA area as well as manufacturing and oil facilities. New emission control technology and engine standards are initiatives that the county is planning will help improve the otherwise horrendous air quality.



Farm runoff leads to gigantic algal bloom in Lake Erie.

While emissions from vehicles, coal power plants and other industries are the primary causes of outdoor air pollution, the main source of indoor air pollution is **volatile organic compounds** (VOCs). These chemicals are emitted as gases from certain household products, and may have short and long-term adverse health effects. Examples of VOCs commonly found in homes include: paints and lacquers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, and craft materials like adhesives, and permanent markers. Many organic compounds are known to cause cancer in animals; some are suspected of causing, or are known to cause cancer in humans.<sup>14</sup>



## INSUFFICIENT REGULATION

Most people believe that if a product is for sale in stores, it must be safe. This is simply not the case: the average American household uses and stores more than 60 hazardous materials, including cleaning chemicals, solvents, paints, herbicides, and pesticides. Since World War II, over 80,000 synthetic chemicals have been produced. Three thousand of these are high-production-volume chemicals, meaning over a million pounds of each are produced annually.<sup>15</sup> The European Union has adopted the **Precautionary Principle** in dealing with these chemical hazards. This principle is a "better safe than sorry approach" that proposes that when there is a possible threat to human or environmental health, precautionary measures should be taken even if some cause and effect relationships are not fully scientifically established. The burden falls on the manufacturer to prove that exposure to their product is safe.<sup>16</sup> The U.S., on the other hand, has until 2016 relied on the outmoded Toxic Substances Control Act of 1976, generally recognized as the weakest environmental law.<sup>17</sup> Therefore, the U.S. government has not conducted even basic toxicity testing for about 75% of the 15,000 high volume chemicals in commercial use. Less than 20% have been tested for their toxicity to children.<sup>18</sup>





irritation as well as chronic, long term effects such as cancer.<sup>23</sup>

The result of years near-total lack of regulation is the widespread contamination of our bodies with hundreds of chemicals, the potential effects of which remain unknown. In 2005, the Environmental Working Group found 148 chemicals in the blood of Americans dispersed across the country. Tests conducted on umbilical cord blood from ten newborns showed the presence of toxic chemicals that passed from mothers to their developing fetuses. In total, 287 chemicals were found in newborn umbilical cords:

- \* 133 linked to cancer in animal tests,
- \* 151 linked to birth defects,
- \* 153 that can alter the hormone system,
- \* 130 that affect the immune system,
- \* and 217 that are toxic to the nervous system and the brain.<sup>24</sup>

Significantly, “two decades of research [by the Environmental Working Group and Breast Cancer Fund] indicate that very low-dose exposures to toxic chemicals can have profound health effects. This counters the long-held belief that ‘the dose makes the poison’ – a rationale that underlies much chemical regulation, including the use of various chemicals in cosmetics.”<sup>25</sup> Small amounts of chemicals widely considered poisonous are being found in more and more products, from tin cans to cash register receipts. The EWG collected samples of cash register receipts from businesses in seven states and found BPA in quantities 250 to 1,000 times greater than what is typically found in a can of food. As BPA is an established endocrine-disruptor that alters the body’s normal hormone levels, a CDC survey that found BPA in 93% of Americans over age 6 is particularly disturbing.<sup>26</sup>





# What the City of Santa Monica is Doing:

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## Santa Monica's Healthy Nail Salon Program

The Healthy Nail Salon Program is a partnership between the City of Santa Monica and the California Healthy Nail Salon Collaborative - a voluntary program available to all of the approximately 30 nail salons across the city to promote healthier and safer nail salon environments for workers, owners, and consumers.

On a daily basis, for long hours, nail salon owners and workers handle solvents, glues, polishes and other beauty care products containing a multitude of chemicals known or suspected to cause cancer, allergies, respiratory, neurological and reproductive harm. The City is concerned with their repeated and prolonged exposure to toxic chemicals.

Neither nail salon workers nor their customers who go for a little pampering, should have to put their health at risk in the process.

To reduce exposure to these chemicals, the Healthy Nail Salon Program requires that salons go through a rigorous checklist of safety measures including use of gloves by all technicians, installation of localized ventilation, hours of training for all employees, and choosing safer nail products.

## Where can I find a recognized Healthy Nail Salon?

Visit [sustainablesm.org/healthynailsalons](https://sustainablesm.org/healthynailsalons) or look for the Healthy Nail Salon Recognition Program logo on your next salon visit.

## Green Cleaning

"The City of Santa Monica has had a green cleaning program in place for 15 years. Green cleaning utilizes safer cleaning products and techniques, particularly for daily cleaning activities. Only the safest cleaning products that can accomplish the desired task are used at public facilities.

The "green" cleaning movement is here! Cleaning products that are affordable, high performing, and safer for your custodians, employees, and the environment are widely available.

Assuming that you don't have tons of time and resources to put in to creating your own list of environmental and human health criteria or standards for environmentally preferable cleaning products, the easiest way to go is to select cleaning products certified by a recognized eco-labeling program, such as Green Seal, UL Environment, or Safer Choice (<https://www.epa.gov/saferchoice>)



**Pretty Shouldn't Stink**

The next time you get your nails done, choose a recognized **Healthy Nail Salon**. They use less toxic products, safer practices and better ventilation. So, you can breathe easy knowing they are healthier for you, their employees and the planet. **Now, that's beautiful.**

To find a recognized **Healthy Nail Salon** near you, visit [sustainablesm.org/healthynailsalons](https://sustainablesm.org/healthynailsalons).

Concept and design by San Francisco Dept. of the Environment. Printed on 100% post-consumer recycled paper.

CALIFORNIA healthy nail salons COLLABORATIVE

Don't Stop. Right Along The Link Road



## DO YOU...

- \* QUESTION THE SAFETY OF YOUR PERSONAL CARE PRODUCTS?
- \* SPRAY YOUR LAWN OR GARDEN WITH PESTICIDES, HERBICIDES, FUNGICIDES OR INSECTICIDES?
- \* PUT PAINT, HOUSEHOLD CLEANERS OR OTHER CHEMICALS IN THE GARBAGE?
- \* POUR PAINT, HOUSEHOLD CLEANERS OR OTHER CHEMICALS DOWN THE DRAIN?
- \* GET YOUR CLOTHES DRY CLEANED?
- \* BUY WHITE PAPER PRODUCTS SUCH AS COFFEE FILTERS, PAPER TOWELS OR PRINTER PAPER?
- \* USE OIL-BASED PAINTS IN OR ON YOUR HOME?
- \* USE RAID OR SIMILAR PRODUCTS TO KILL HOUSEHOLD PESTS?

## NOW YOU CAN...

### 1. AVOID BODY CARE PRODUCTS THAT ARE HARMFUL TO YOUR HEALTH.

- \* Use the number one tool available to research what is in your personal care products and find out their safety score. Before you replace personal care products, explore the Environmental Working Groups database at [ewg.org/skindeep](http://ewg.org/skindeep). Skin is our largest organ and it absorbs what we put on our body.
- \* Avoid the following ingredients in skin products:

Coal tar	Nanoparticles
Formaldehyde	<b>Parabens</b>
Fragrance	Petroleum byproducts
Lead	Pthalates
Mercury	<b>Triclosan</b>

- \* Visit the Support Tools for a detailed table of ingredients to avoid.
- \* Use sunscreens that protect your skin. Surprisingly, 3 of 5 brand-name sunscreens either don't protect skin from sun damage or contain hazardous chemicals — or both. An Environmental Working Group investigation of 1,671 sunscreens rates the season's best — and worst.”
- \* Oxybenzone is a primary sunscreen ingredient associated with photoallergic reactions and linked to hormone disruption and cancer. This chemical absorbs through the skin in significant amounts. It contaminates the bodies of 97% of Americans according to Centers for Disease Control research.
- \* Only 1 out of 10 sunscreens for beach and sports offers superior protection.
- \* 1 out of 5 daily moisturizers with SPF let damaging UVA rays through.
- \* 1 out of 5 lip balms with SPF leave lips vulnerable to sunburn, aging, and cancer.
- \* Visit: <http://www.ewg.org/sunscreen/> for information to help you find safe and effective sunscreens. You can also access the EWG Sunscreen Buyer's Guide mobile phone applications.
- \* Visit: <http://www.ewg.org/research/ewgs-guide-bug-repellents> to download EWG's Guide to Bug Repellents.



## 2. USE THE SAFEST CLEANING PRODUCTS AVAILABLE.

- Visit the EWG's Guide to Healthy Cleaning, the first-of-its-kind interactive, online guide that rates over 2,000 household cleaners. The scoring system considers both safety of ingredients and disclosure of contents.

- \* <http://www.ewg.org/guides/cleaners>
- \* Visit the EWG's Cleaners Hall of Shame at [ewg.org/cleaners/hallofshame/](http://ewg.org/cleaners/hallofshame/)

- Visit the GoodGuide online platform to read evaluations of the health, environmental, and social impacts of consumer products. This comprehensive site allows users to search for products and see complete lists of ingredients along with scores that alert users to the safety and overall healthiness of a product.

- \* See <http://www.goodguide.com> for more information.

- Look for safer cleaning products that meet the Safer Choice Standard <http://www.epa.gov/saferchoice>

- Replace household cleaners with less toxic alternatives

- \* Non-petroleum based cleaning agents
- \* **Phosphate** free soaps and detergents
- \* Biodegradable soaps and detergents

Laundry detergents, including most major brands, don't contain phosphates and have ingredients that are biodegradable. The market is beginning to cater to people wanting products with reduced impact on human health and environment including some pesticide products and cleaning products. Help support the market by purchasing alternatives.

- Create an alternative cleaning kit. An alternative cleaning kit should contain:

Baking Soda	Powdered Soap Flakes
Distilled White Vinegar	Salt
Lemon Juice	Scouring Pad
Liquid Vegetable Oil	Sponge
Non-Chlorinated Scouring Powder	

Visit the Support Tools for a list of alternative cleaning recipes. You can also download a wider range of recipes by visiting: [dpw.lacounty.gov/epd/hhw/alternative\\_recipes.pdf](http://dpw.lacounty.gov/epd/hhw/alternative_recipes.pdf)

- Use a formula of 25% Hydrogen peroxide, 25% baking soda & 50% water to clean and de-odorize athletic equipment.
- Avoid spray cleaners as they release tiny particles into the air that can spread throughout your home.
- Use chlorine bleach alternatives. 'Oxy-' and 'oxi-' are prefixes commonly used for eco-cleaners and detergents.
- Use 1/2 or a 1/3 of the amount of laundry soap/rug shampoo, hand soap, etc. You can also use less by diluting "pump" hand soaps with water or by reusing an existing foaming pump by adding diluted soap.

## 3. AVOID CHEMICALS FOR PEST MANAGEMENT IN YOUR GARDEN AND HOME.

- Use a non-toxic or less toxic pest control methods.

**Integrated Pest Management (IPM)** is a safer approach inside and outside pest management.

Practices include:



- \* **Physical and mechanical controls** - include trapping and removing pests, placing barriers to keep pests out, and using heat, cold or electric currents to kill pests. Wash leaves with a mild mixture of soap and water. Clean up food crumbs and keep cupboard well-sealed. Keep outside garbage well-sealed and empty garbage cans regularly.
- \* **Cultural practices** - seek to create an environment unfavorable to pests through methods such as carefully managing irrigation and adding compost to soil. Use your worm castings for fertilizer and worm tea as a pesticide. Keep soil healthy to avoid pest problems. Plant native plants that contain natural pest deterrents such as thorns.
- \* **Biological control** - uses pests' natural enemies, such as beneficial insects, to keep pests within limits.
- \* **Least-toxic pesticides** – used as a last resort, natural insecticides include *Bacillus thuringiensis* (Bt), a naturally occurring soil bacterium; borax-based compounds, based on the element boron; and diatomaceous earth, a dust made from fossilized remains of an ancient algae. In many cases, these substances have relatively low toxicity, and tend to biodegrade rapidly. However, just because they are natural does not mean they are safe. If least-toxic pesticides are used, it is important that they be applied in the least harmful manner possible. For example, bait stations and gels, are preferable to sprays as an application method.

**Note** - Friends of the Earth and the Pesticide Research Institute released a report detailing how some “bee friendly” home garden plants, such as sunflowers, sold at Home Depot, Lowe’s and other garden centers have been pre-treated with the very neonic pesticides shown to harm and kill bees.

**DON’T KILL THE BEES!** Bee Rescue Hotline: (213) 373-1104.

The volunteer organization, Backwards Beekeepers, removes hives without killing them. [backwardsbeekeepers.com/p/bee-rescue-hotline.htm](http://backwardsbeekeepers.com/p/bee-rescue-hotline.htm)

“The City of Santa Monica has not allowed perimeter spraying - the most common type of pest control service in which toxic pesticides are sprayed around the perimeter of a building or structure monthly - since 1997. They also ceased using Roundup to control weeds in 2018.

Check out the comprehensive City of Santa Monica pest facts sheets covering ants, fleas, roaches, yellowjackets, healthy gardens, aphids, lawn care, snails & slugs, roses and weeds: [smgov.net/Departments/OSE/categories/content.aspx?id=4175](http://smgov.net/Departments/OSE/categories/content.aspx?id=4175)

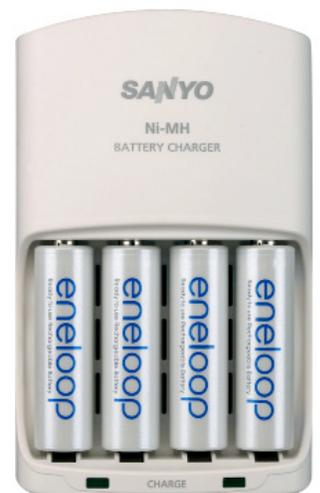
#### 4. CHANGE YOUR BEHAVIOR.

- When shopping,
  - \* Read the label.
  - \* Avoid toxic chemicals whenever possible.
- Ways to deal with existing chemicals in your home:
  - \* Use up hazardous products and do not repurchase them
  - \* Donate unused paints and various supplies to art institutes and charities.
  - \* Properly dispose of hazardous products at a Hazardous Household Waste Facility.
  - \* Usher kids and pets outside if using cleaning products that **off-gas**.
  - \* Don’t use hot water with toxic chemicals; it can cause them to off-gas more easily, releasing VOCs.
  - \* Open doors and windows to increase ventilation when using cleaning products.
- In many cases micro fiber cloth can be used to perform cleaning tasks, such as wiping down counters and cleaning screens.
- Remove shoes at the door, place a rug at the entryway and vacuum frequently. This avoids tracking in pollutants from outside.



#### 5. REDUCE YOUR PURCHASES OF HARMFUL CHEMICAL PRODUCTS.

- Buy rechargeable batteries rather than disposable one-time use batteries. Rechargeable battery technology now offers batteries that hold their charge for up to one year.
  - \* Over 6 billion batteries are tossed in the trash every year and account for over 250 tons of toxic battery waste. Battery waste is known to pollute drinking water, cause cancer and kill wildlife.



- One of the most important things you can do is buy paper products that aren't bleached with chlorine.
  - \* Chlorine bleached paper can contain dioxin and organochlorine residues that can transfer to any food or person they come in contact with. The EPA says that using bleached coffee filters alone can result in a lifetime exposure to dioxin that "exceeds acceptable levels". Choose instead unbleached paper products.
  - \* Other non-bleached products to consider are tampons, diapers and coffee filters.
 Visit the Support Tools for the "Dioxin Fact Sheet".
- Avoid using air fresheners.
  - \* A recent investigation of 14 common air fresheners by the Natural Resources Defense Council (NRDC) found hormone-disrupting chemicals known as phthalates in 12 products, including some fresheners marketed as "all-natural" and "unscented." None of the air fresheners listed phthalates on their labels.
- Burn beeswax, soy or other plant wax candles. The paraffin and metal wicks in traditional candles release harmful fumes when burnt. Scented candles, unless made with essential oils, produce more soot than unscented varieties, which can cause breathing problems.
- Avoid plywood and particle board. Both types of lumber emit formaldehyde, which is known to cause cancer. (Cars, carpeting and plastic also emit formaldehyde!)
- Use water-based, Low-VOC, or zero-VOC paint, now available at many paint retailers. Paint can continue to off gas for many years after application.
- Avoid soaps and detergents containing phosphates or antibacterial ingredients.
  - \* The FDA recently acknowledged that there is no difference in washing hands with or without antimicrobial soap, and some of the chemicals in antibacterial soaps and body washes can be harmful.
- Avoid Teflon coated materials. See the Environmental Working Group's report: [ewg.org/reports/toxicteflon](http://ewg.org/reports/toxicteflon).
- Avoid products made with PVC (Polyvinyl Chloride). According to GreenPeace, "PVC is the most environmentally damaging plastic. The PVC lifecycle -- its production, use, and disposal -- results in the release of toxic, chlorine-based chemicals. These toxins are building up in the water, air and food chain. The result: severe health problems, including cancer, immune system damage, and hormone disruption. No one can escape contamination: Everyone everywhere has measurable levels of chlorinated toxins in their bodies." PVC is a major source of dioxin in the environment.
  - \* Products containing PVC include: packaging, home furnishings, children's toys, automobile parts, building materials, hospital supplies, credit cards and hundreds of other products. For more information on PVC visit <http://www.greenpeace.org/international/en/campaigns/detox/polyvinyl-chloride/the-poison-plastic/>

## 6. BRING A PLANT INTO A ROOM TO CLEAN THE AIR.

Research suggests you need two or three plants to contribute to good air quality in the average domestic living room. Research has shown that the following plants are the most effective all-around in counteracting off gassed chemicals and contributing to balanced internal humidity:

Areca Palm	Florist Mum
Australian Sword Fern	Gerbera Daisy
Bamboo Palm	Kimberly Queen Fern
Boston Fern	Peace Lily (not w/children or pets)
Dracaena	Reed Palm
Dwarf Date Palm	Rubber Plant
English Ivy (not w/children or pets)	Weeping Fig



Rubber plant

For an extensive list of detoxifying plants check out "How to Grow Fresh Air" by B.C. Wolverton.

- Open windows and ventilate, even in the wintertime, especially when you are cleaning or using glues, paints, or solvents.

## 7. USE THE SAFEST ALTERNATIVE TO A “PERC” DRY CLEANER AVAILABLE.

- ❑ Conventional dry cleaning relies heavily on perchloroethylene, or “perc”, a toxic solvent, air pollutant and probable carcinogen. It has been linked to cancer, neurological damage, reduced sperm count, nausea, and miscarriages. It is estimated to have contaminated 1 in 10 public drinking wells in California. And, according to federal EPA data, it is one of the top 10 most toxic air contaminants in the state. EPA regulations require all dry cleaners located in residential buildings to phase out Perc by 2020.
- ❑ Most dry cleaning is outsourced, so be sure to ask your current cleaner if they provide less toxic cleaning options as they may already be under contract with a green dry cleaner.

## 8. QUIT SMOKING, AND URGE YOUR LOVED ONES TO DO THE SAME.

- \* Short of that, don't allow smoking indoors or in areas where others may be exposed.
- \* Cigarette smoke is a toxic pollutant, made up of more than 4,000 chemicals.
- \* In addition to the 440,000 American smokers who die every year from illnesses caused by cigarette smoke, thousands of nonsmokers die from health problems caused or aggravated by secondhand smoke, including heart disease, lung cancer and sudden infant death syndrome.
- \* The Centers for Disease Control ranks smoking as the leading preventable cause of death and disease in the United States each year.

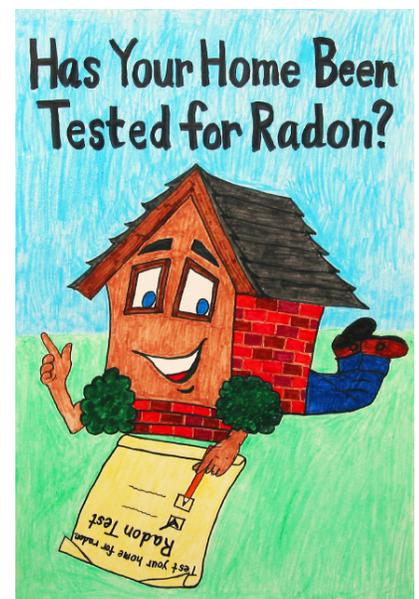


## 9. AVOID TOXIC SUBSTANCES.

- ❑ Test your home for radon.

Several EPA approved kits are available for about \$35 in hardware stores. Alternately, find a certified contractor to test for radon through the National Radon Proficiency Program or the National Radon Safety Board. If testing reveals high radon levels, you'll want to have a certified professional design and install a mitigation system, which usually costs somewhere in the \$1,000 range. If you're buying a home, have it professionally tested for radon before you close the deal.

  - \* Radon is an invisible, odorless, radioactive gas produced by the decay of a naturally occurring element in soil called radium. In high levels, radon gas can be a serious problem. Radon seeps into homes through cracks in the foundations, accumulating in lower floors, especially basements. The problem is worst where ventilation is poor. Radon gas is the second leading cause of lung cancer in the United States, after tobacco, and is responsible for approximately 21,000 lung cancer deaths every year.
- ❑ Have your home assessed for indoor mold.
  - \* Molds have the potential to cause health problems. Molds produce allergens, irritants, and in some cases, potentially toxic substances (mycotoxins). Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals. Allergic responses include hay fever-type symptoms, such as sneezing, runny nose, red eyes, and skin rash (dermatitis). Allergic reactions can be immediate or delayed. Molds can also cause asthma attacks in certain people. Mold exposure can irritate the eyes, skin, nose, throat, and lungs of both mold-allergic and non-allergic people.
- ❑ Avoid products that may contain **bisphenol A (BPA)**.
  - \* The Toxics-Free Babies and Toddlers Act, (SB 797) calls for a ban on bisphenol A, by January 2012, in feeding products designed for children aged 3 and under. It also bans BPA in all infant formula starting July 2012.
  - \* For a Guide to BPA, visit [ewg.org/bpa/](http://ewg.org/bpa/)
- ❑ Avoid Exposure to Phthalates
  - \* During the past decade, phthalates, a colorless, oily chemical used in thousands of consumer products to impart flexibility and durability, have come under fire for their threat to the developing human reproductive system, particularly in young boys. Phthalates can slowly leach from products, and children typically ingest them by hand-to-mouth contact, or by chewing on a toy.



\* A California law took effect January 1, 2009 that effectively bans the sale of toys and other children’s products containing phthalates, becoming the strictest standard of its kind in the nation. These goods now may not contain more than 0.1 percent of phthalates.

Avoid products that accumulate toxics in your body.

\* Persistent Bioaccumulative Toxics (PBTs) and Persistent Organic Pollutants (POPs) are substances that resist degradation in the environment and accumulate in the tissues of living organisms, where they can produce harmful effects on human health or the environment. POPs, specifically, are likely to be transported and deposited long distances from their original source.

\* Examples of products that contain PBTs: Outdoor lighting, sodium lamps, thermostats, caulking and sealants, electrical switches, varnishes and wood stains, floor polishes, batteries, bleached paper products, PVC products and carpet, mercury – containing thermostats and switches, Dibutyl Phthalate containing caulking and sealants, floor polishes, wood stain and varnishes.

Limit your exposure to cell phone radiation.

\* “Radiation from cell phones can possibly cause cancer, according to the World Health Organization. The agency now lists mobile phone use in the same “carcinogenic hazard” category as lead, engine exhaust and chloroform.”

\* EWG recommends that cell phone users buy phones with low emissions and follow their tips available at [ewg.org/project/2009cellphone/EWGguide-cellphoneradiation.pdf](http://ewg.org/project/2009cellphone/EWGguide-cellphoneradiation.pdf) to minimize radiation exposure. You can access the Environmental Working Group’s list of phone radiation levels at [ewg.org/cellphoneradiation/Get-a-Safer-Phone](http://ewg.org/cellphoneradiation/Get-a-Safer-Phone).

## 0 10. GET ACTIVE.

Volunteer opportunities:

- \* Co-opportunity
- \* Environmental Working Group
- \* Mothers and Others
- \* Pesticide Action Network

Write a letter

- \* Tell your representatives to support the precautionary principle.
- \* Take action! Can’t memorize all these chemical lists? Nobody can. If harmful contaminants and ingredients weren’t allowed in products, you wouldn’t have to. Tell Congress you want safe cosmetics for everyone.
- \* Write to your Congressional Representatives and the Environmental Protection Agency (EPA). Demand that they halt the expansion of the PVC industry and begin the phase-out of PVC.
- \* Write to the manufacturers of personal care products you will no longer purchase because they contain toxic ingredients.

Participate in the following thematic event:

- \* National Lead Poisoning Prevention Week – Fourth Week of October  
[epa.gov/lead](http://epa.gov/lead)
- \* Consider a Green Job, or making your current job more sustainable

SMARTPHONE APP:

- \* o The Environmental Working Group’s Healthy Living app lets you scan a product’s bar code to see the level of toxicity in the product. It is free to download for both IOS and Android.





# GREEN JOBS – CHEMICALS

## AIR POLLUTION

\* **Air Quality Sampler, Specialist, or Consultant** – Entry-level positions at a private firm might require you to inspect and diagnose the operation of HVAC systems, test the indoor air quality, monitor carbon dioxide levels, and evaluate ventilation rates against industry standards. Such firms will often train the right person, so you don't necessarily need experience in the environmental field. Most of these companies like to see a bachelor's degree. These jobs require several years' experience with air compliance regulations, and knowledge of air quality issues and trends, and a minimum of a bachelor's degree in chemical, environmental, or civil engineering or meteorology.



➤ Go to [www.4cleanair.org](http://www.4cleanair.org) (the National Association of Clean Air Agencies) for information about this field.

➤ **Environmental Technician** – There is a growing need for both certified and non-certified environmental technicians at a variety of levels. Technicians are sought after by large governmental entities, such as the EPA (Environmental Protection Agency), in addition to local municipalities, non-profits and manufactures. Specifically, certificated technicians complete an OSHA program and are deployed in chemical cleanup and measurement of hazardous materials including lead, mercury, anthrax and oil. Conversely, non-certified technicians are not required to deal with hazardous material and focus on gathering water and well samples, inspecting sewers, and maintaining field instruments.



➤ Visit the Institute of Hazardous Materials Management, [www.ihmm.org](http://www.ihmm.org) for information on certification or [www.epa.gov/careers](http://www.epa.gov/careers) for job listings.

\* **Air Pollution Specialist** – Investigates local government and land use activities, develops protocols for estimating greenhouse gas emissions, develops community GHG inventories, and evaluates GHG reduction benefits from green buildings. Bachelor's Degree in Chemistry, Chemical Engineering or a Physical Science is a minimum education requirement. The Economic Development Department predicts 2,600 new environmental scientist and specialist jobs by 2016. Air Pollution Specialists can expect to earn between \$64,000 and \$74,000/year.

## CHEMISTRY

\* **Hazardous Materials Removal Worker** – Identifies, removes, transports and disposes of various hazardous materials including asbestos, lead and radioactive and nuclear materials. A minimum of a HS Diploma or GED is required as well as 1-3 months of training and licensure for each material handled. Salaries range from \$20-\$25/hour.

\* **Hazardous Waste Management Specialist** – Conducts studies on hazardous waste management projects and provides information on treatment and containment of hazardous waste. Provides technical assistance in the event of a hazardous chemical spill and identifies pollutant, determines hazardous impact and recommends corrective action. A degree in Chemistry or other Science is recommended. Areas of recommended college course work include Analytical Chemistry, Organic Chemistry and Physical Chemistry. Two years experience in a comprehensive environmental, health and safety program is required. Salaries range from \$25-\$35/hour.



➤ For training involving green chemical practices go to [www.warnerbabcock.com](http://www.warnerbabcock.com) for more details.

## REFERENCES

Green Careers – Choosing Work for a Sustainable Future by Jim Cassio & Alice Rush

Green Jobs: A Guide to Eco-Friendly Employment by Llewellyn, Hendrix, Golden ISBN-10: 1-59869-872-9

Great Jobs for Environmental Studies Majors by Julie DeGalan & Bryon Middlekauff ISBN 978-0-07-149315-4



# SUPPORT TOOLS

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# DRUGSTORE COSMETICS

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These products were rated low on EWG's Cosmetic Database, meaning that they present a low hazard to the environment. However, their EWG Data availability rating: the scope of ingredient safety data contained in Skin Deep, and the number of studies available in the open scientific literature were all listed as 'limited'.

## ALMAY <sup>1</sup>

Almay Anti-Perspirant Deodorant Clear Gel Fragrance Free (EWG Rating: 1)

## BOOTS

Boots No. 7 Lip Gloss CHAMPAGNE (EWG Rating: 1)

Boots No. 7 Stay Perfect LIP LACQUER, CLEAR GLOSS (EWG Rating: 1)

Boots No. 7 Stay Perfect Eye Shadow Palette, All shades (EWG Rating: 2) Boots Botanics Super Balm (EWG Rating: 0)

Boots No. 7 Stay Perfect Smoothing & Brightening Eye Base (EWG Rating 2)

Boots No. 7 High Shine Lip Gloss, Ice (EWG Rating: 1)

Boots No7 Lash 360 Mascara, Black (EWG Rating: 0)

Boots Botanics Organic Nourishing Eye Make-up Remover (EWG Rating: 0)

## BURT'S BEES

Burt's Bees 100% Natural Lip Balm, Classic Beeswax (EWG Rating: 1)

## COVER GIRL

CoverGirl Clean Eyes Make-Up Remover for Eyes & Lips (EWG Rating: 2)

## MAYBELLINE

Maybelline Expert Eyes Moisturizing Mascara Remover (EWG RATING: 2)

Maybelline Expert Eyes Moisturizing Mascara Remover for Waterproof Eye Makeup (EWG RATING: 2)

Maybelline Define-A-Line Eye Liner (EWG Rating: 1)

## LOREAL

L'Oréal Pureology Hydrate Conditioner (EWG Rating: 0)

## NEUTROGENA

Neutrogena Crease Proof Eyeshadow (EWG Rating: 1)

## PHYSICIANS FORMULA

Physicians Formula Organic Wear Eye Liner (EWG Rating: 0)

Physicians Formula Eyebrightener Liquid Eyeliner, Bronze (EWG rating 1)

Physicians Formula Organic Wear Facial Makeup Remover Lotion (EWG Rating: 1)

Physicians Formula Organic Wear Natural Origin Concealer Stick, soft green & soft yellow (EWG Rating: 2)

## REVLON

Revlon Lipstick (EWG Rating: 1) Revlon Color Allure Nails, Medium (EWG Rating: 0)

## WET 'N WILD

Wet 'n Wild Fergie Eye Shadow Palette, Desert Festival (EWG Rating: 1)

# Common Toxic Chemicals in Everyday Products

INGREDIENT	CODE NAME	LURKS IN	PURPOSE	NOT SO PRETTY	ALTERNATIVE
Bisphenol A (BPA)	BPA, but in most cases it is not listed as an ingredient as is the case when used as a resin in food containers.	Adhesives, dental fillings, and the linings of food and drink cans. Also used in cell phones, computers, eyeglasses, drinking bottles, medical devices, and CDs and DVDs. It's also in infant-formula cans and many clear plastic baby bottles and is common in resin that lines many food product containers.	An industrial chemical used to make polycarbonate plastic resins, epoxy resins, and other products.	At low doses it can mimic the body's own hormones. Can cause heart arrhythmias in females, and harmful modifications of a gene that plays pivotal role in reproduction. It has been linked to neurological defects, diabetes and breast and prostate cancer.	Avoid using plastic bottles for food consumption. Reduce your purchase of canned foods. Use glass containers instead. We recommend stainless steel bottles such as Klean Kanteen. Older Sigg bottles have recently been found to contain low levels of BPA.
Coal tar	FD&C Blue 1, Green 3, Yellow 5 & 6, D&C Red 33	Hair dye, makeup, some strong scalp-treatment shampoo	Color agent or additive: dry scalp treatment	Some ingredients are known carcinogens, others may contain carcinogenic impurities	Skip the hair dye or use it less frequently, or use henna, a plant-based dye; milder dandruff shampoos; natural makeup products
Formaldehyde	Formaldehyde, formalin, DMDM Hydantoin, imidazolidinyl urea, and phenoxyethanol	Nail treatments, blush, face powder, and other cosmetics	Preservative	Very likely a carcinogen, allergen	Products that use vitamins E or C or citric acid
Fragrance	Fragrance, parfum (these can be made up of hundreds of unlisted chemicals)	Lotions, shampoos, soaps, cleansers, moisturizers, makeup, perfume, etc.	Added or cover-up scent	Very common allergic reactions, including contact dermatitis, respiratory irritant	"Fragrance-free" products (check ingredients), or those scented with essential oils
Mercury	Thimerosal	Pain and wound treatments, eyedrops, occasionally eye makeup such as mascara (the FDA has banned mercury in all non-eye are cosmetics)	Preservative	Neurotoxin	Products that don't use it
Nanoparticles	Products aren't labeled	Lotions, moisturizers, make-up and particularly sunscreen		They are so small they can penetrate cell walls and are highly reactive	

INGREDIENT	CODE NAME	LURKS IN	PURPOSE	NOT SO PRETTY	ALTERNATIVE
Lead	Lead acetate	Some hair dye for men (many hair dyes also contain harmful ammonia)	Coloring agent	Neurotoxin	Use henna or a silver fox
Parabens	Methyl-, ethyl-, butyl-, propyl-, iso-, alkylhydroxy-, and butyl-parabens	Facial cleansers, liquid soaps, hair conditioner, toothpaste, shaving cream.	An industrial chemical Used as preservative to prevent clumping and bacterial growth.	Endocrine disruptor, possible carcinogen.	Products that use vitamin E (tocopherol), vitamin C (ascorbic acid), or citric acid
PFOA & PFOS	Perfluorooctanoate & perfluorooctane sulfonate. Brand names: Teflon, Scotchgard, Stainmaster, Silverstone	Packaging, non-stick cookware, carpets, upholstery, personal care products	PFOA is not only used to manufacture Teflon, but is also a breakdown product of chemicals used to coat food packaging, including fast food like McDonald's, and stain-resistant coatings for couches, carpets, and clothing.	Linked to liver, immune system, developmental and reproductive problems including infertility in women. Once released, they just persist. Accumulating in the environment and our bodies since the 1950s, when these chemicals first started to enter the marketplace in large quantities.	Avoid using the brand name products that contain them such as Teflon, Scotchgard, Stainmaster, Silverstone.
Petroleum byproducts	Mineral oil, PEGs, propylene glycol, butylene glycol, PVP, and acrylics	Pesticides, plastics, and some personal care products. Anything ending in '-ene' or '-ol' is likely a petroleum-based solvent.	Preservatives and antibacterial	Hormonal disruption, immune system malfunction and premature aging	Gentler and all natural organic products.
Phthalates	Dibutylphthalate, DPB, DEHP, DHP, 1, 2-benzenedicarboxylic acid or diethyl ester. Not listed when used in fragrance.	Perfume, nail polish, hair spray, soap, shampoo, mascara, mosquito repellents, and many other personal care products	Makes materials more pliable, prevents cracking, retains scents by "fixing".	May cause developmental and reproductive problems. These chemicals act as hormone mimics, disrupting normal hormone function or even causing birth defects.	All-natural soaps & shampoos, organic products, products scented w/oil.
Triclosan	Triclosan	Hand soaps and dish soaps and antibacterial detergents Can be found in products that say "will not smell" or "resists mildew"	Antibacterial pesticide	Persist in the environment, breaks down into substances highly toxic to wildlife, and disrupts hormonal system.	Try using antibacterial soaps with natural agents such as CleanWell products use of Ingenium

Table framework and content adapted from Ready, Set, Green by Graham Hill & Meaghan O'Neill with additional information added.

# Top Hazardous Household Chemicals\*

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## AIR FRESHENERS

Most air fresheners interfere with your ability to smell by coating your nasal passages with an oil film, or by releasing a nerve deadening agent. Known toxic chemicals found in an air freshener: Formaldehyde: Highly toxic, known carcinogen. Phenol: When phenol touches your skin it can cause it to swell, burn, peel, and break out in hives. Can cause cold sweats, convulsions, circulatory collapse, coma and even death.

## AMMONIA

It is a very volatile chemical, it is very damaging to your eyes, respiratory tract and skin.

## ANTIBACTERIAL CLEANERS

May contain: Triclosan: Absorption through the skin can be tied to liver damage.

## BLEACH

It is a strong corrosive. It will irritate or burn the skin, eyes and respiratory tract. It may cause pulmonary edema or vomiting and coma if ingested. WARNING: never mix bleach with ammonia it may cause fumes which can be DEADLY.

## CARPET AND UPHOLSTERY SHAMPOO

Most formulas are designed to over power the stain itself, they accomplish the task but not without using highly toxic substances. Some include: Perchloroethylene: Known carcinogen damages liver, kidney and nervous system damage. Ammonium Hydroxide: Corrosive, extremely irritate to eyes, skin and respiratory passages.

## DISHWASHER DETERGENTS

Most products contain chlorine in a dry form that is highly concentrated. # 1 cause of child poisonings, according to poison control centers.

## DRAIN CLEANER

Most drain cleaners contain lye, hydrochloric acid or trichloroethane. Lye: Caustic, burns skin and eyes, if ingested will damage esophagus and stomach. Hydrochloric acid: Corrosive, eye and skin irritant, damages kidneys, liver and digestive tract. Trichloroethane: Eye and skin irritant, nervous system depressant; damages liver and kidneys.

## FURNITURE POLISH

Petroleum Distillates: Highly flammable, can cause skin and lung cancer. Phenol: (see Air fresheners, Phenol.) Nitrobenzene: Easily absorbed through the skin, extremely toxic.

## LAUNDRY ROOM PRODUCTS

Sodium or calcium hypochlorite: Highly corrosive, irritates or burns skin, eyes or respiratory tract. Linear alkylate sulfonate: Absorbed through the skin. Known liver damaging agent. Sodium Tripolyphosphate: Irritates skin and mucous membranes, causes vomiting. Easily absorbed through the skin from clothes.

## MOLD AND MILDEW CLEANERS

Chemicals contained are: Sodium hypochlorite: Corrosive, irritates or burns skin and eyes, causes fluid in the lungs which can lead to coma or death. Formaldehyde: Highly toxic, known carcinogen. Irritant to eyes, nose, throat, and skin. May cause nausea, headaches, nosebleeds, dizziness, memory loss and shortness of breath.

## OVEN CLEANER

Sodium Hydroxide (Lye): Caustic, strong irritant, burns to both skin and eyes. Inhibits reflexes, will cause severe tissue damage if swallowed.

## TOILET BOWL CLEANERS

Hydrochloric acid: Highly corrosive, irritant to both skin and eyes. Damages kidneys and liver. Hypochlorite Bleach: Corrosive, irritates or burns eyes, skin and respiratory tract. May cause pulmonary edema, vomiting or coma if ingested. Contact with other chemicals may cause chlorine fumes which may be fatal.

\* Top 10 Hazardous Household Chemicals, list by Richard Alexander, <http://www.nothingbut-the-truth.com/most-hazardous-household-chemicals/>.

# Alternative Cleaning Recipes

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## **BASIN, TUB, AND TILE CLEANER**

Rub the area to be cleaned with half a lemon dipped in borax. Rinse, and dry with soft cloth.

## **CERAMIC TILE CLEANER**

Mix a quarter-cup of vinegar in a gallon of water. This removes most dirt without scrubbing and doesn't leave a film.

## **COPPER-PAN CLEANER**

Sprinkle surface of pans with coarse salt. Rub salt into stains with the cut half of a fresh lemon.

## **DEODORANT**

Baking soda, Deodorant Crystals

## **DISHWATER DETERGENT**

2 tablespoons baking soda, 2 tablespoons borax. Mix baking soda and borax and put mixture in dishwasher.

## **DISINFECTANT**

½ cup Borax & 1 gallon of hot water

## **DRAIN CLEANER**

½ cup baking soda down drain, add ½ cup white vinegar and cover the drain. Follow with hot water. (may need the help of a plunger)

## **FLOOR CLEANER**

Mix 1 cup white vinegar with 2 gallons hot water. For greasy floors, add one-fourth cup washing soda and 1 tablespoon vegetable-oil-based soap to the mixture. Or 1/8 cup vegetable oil based soap + ½ cup vinegar + 2 gallons warm water.

## **FURNITURE POLISH**

3 ways! -use a soft cloth and wipe with a bit of mayonnaise. Rub the furniture with a cloth dipped in cool tea. Mix 2 parts olive oil with 1 part lemon juice. Apply mixture to furniture with a soft cloth and wipe it dry.

## **GARBAGE DISPOSAL FRESHENER**

Grind ice and used lemon or orange in the disposal. Besides freshening, the ice will clean and sharpen the blades.

## **LEATHER SHOE POLISH**

Add a shine by polishing it with the inside of a banana peel; then buff.

## **MOLD AND MILDEW REMOVER**

Dissolve half-cup vinegar with half-cup borax in warm water. Mix them fresh for each use.

## **OVEN CLEANER**

Baking soda, salt, water & a scrubber, or baking soda and white vinegar.

## **SCOURING POWDER**

Baking soda

## **SHOE POLISH**

Rub inside of a banana peel, then buff

## **SILVER POLISH**

Clean silver with white toothpaste and warm water using an old soft bristled toothbrush. To magnetize tarnish away, soak silver in salted water in an aluminum container; then wipe it clean.

## **TOILET BOWL CLEANER**

Sprinkle some baking soda into the bowl. Drizzle with vinegar; scour with a toilet brush. This not only cleans, it deodorizes as well.

## **TOILET BOWL, TUB & TILE CLEANER**

Borax, pumice, baking soda

## **TOOTH PASTE**

Baking soda, salt, water.

## **WINDOW CLEANERS**

2 ways! 1.) mix 2 teaspoons of white vinegar with 1 quart warm water. Use a natural linen towel or other soft cloth to clean. 2.) mix half-cup cornstarch with 2 quarts warm water. Apply with sponge then wipe with absorbent cloth or towel. Good for car windows and bathroom mirrors. Do not do windows or glass when sun is on them or if they are warm. This causes the solution to dry to quickly creating unwanted streaks. (If the windows streak, clean windows with alcohol before changing over to a vinegar based cleaner)

## **WOOD FURNITURE CLEANER**

To remove water stains on wood furniture, dab white toothpaste onto stain. Allow the paste to dry and then gently buff off with a soft cloth.

# What is Dioxin?\*

Dioxin is one of the most toxic chemicals known. A draft report released for public comment in September 1994 by the US Environmental Protection Agency clearly describes dioxin as a serious public health threat. The public health impact of dioxin may rival the impact that DDT had on public health in the 1960's. According to the EPA report, not only does there appear to be no "safe" level of exposure to dioxin, but levels of dioxin and dioxin-like chemicals have been found in the general US population that are "at or near levels associated with adverse health effects." The EPA report confirmed that dioxin is a cancer hazard to people; that exposure to dioxin can also cause severe reproductive and developmental problems (at levels 100 times lower than those associated with its cancer causing effects); and that dioxin can cause immune system damage and interfere with regulatory hormones.



Dioxin is a general term that describes a group of hundreds of chemicals that are highly persistent in the environment. The most toxic compound is 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin or TCDD. The toxicity of other dioxins and chemicals like PCBs that act like dioxin are measured in relation to TCDD. Dioxin is formed as an unintentional by-product of many industrial processes involving chlorine such as waste incineration, chemical and pesticide manufacturing, and pulp and paper bleaching.

## WHERE DOES DIOXIN COME FROM?

Dioxin is formed by burning chlorine-based chemical compounds with hydrocarbons. The major source of dioxin in the environment (95%) comes from incinerators burning chlorinated wastes. Dioxin pollution is also affiliated with paper mills and the production of Polyvinyl Chloride (PVC).

## WHAT HEALTH EFFECTS ARE RELATED TO EXPOSURE TO DIOXIN AND DIOXIN-LIKE COMPOUNDS?

- \* Sperm count in men worldwide has dropped to 50% of what it was 50 years ago.
- \* The incidence of testicular cancer has tripled in the last 50 years, and prostate cancer has doubled.
- \* Endometriosis - the painful growth outside the uterus of cells that normally line the uterus - -which was formerly a rare condition, now afflicts 5 million American women.
- \* In 1960, a woman's chance of developing breast cancer during her lifetime was one in 20. Today the chances are one in eight. A July 2002 study shows dioxin to be related to increased incidence of breast cancer.

## HOW ARE WE EXPOSED TO DIOXIN?

The major sources of dioxin are in our diet. Since dioxin is fat-soluble, it bioaccumulates up the food chain and it is mainly (97.5%) found in meat and dairy products (beef, dairy products, milk, chicken, pork, fish and eggs in that order). In fish alone, these toxins bioaccumulate up the food chain so that dioxin levels in fish are 100,000 times that of the surrounding environment.

The EPA's dioxin report, they refer to dioxin as hydrophobic. This means that dioxin, when it settles on water bodies, will avoid the water and find a fish to go in to. The same goes for other wildlife. Dioxin will find animals to go in to, working its way to the top of the food chain.

Men have no ways to get rid of dioxin other than letting it break down according to its chemical half-lives. Women, on the other hand, have two ways which it can exit their bodies:

- \* It crosses the placenta... into the growing infant;
- \* It is present in the fatty breast milk, which is also a route of exposure which doses the infant, making breast-feeding for non-vegetarian mothers quite hazardous.

\* Based on information found on the Dioxin Homepage at <http://www.ejnet.org/dioxin/>



# GLOSSARY OF KEY TERMS

**Bisphenol A (BPA):** A potentially harmful chemical commonly found in plastic containers as well in the lining of canned foods and beverages and some cheaper made aluminum water bottles. It is a known endocrine disruptor. Low doses of bisphenol A can mimic the body's own hormones, potentially causing negative health effects.

## Chemical Label Images

Poisonous



Corrosive



Flammable



Explosive



**Chlorine Bleach:** a chemical that is used to give paper its whiteness. If bleach is discharged into a river or lake it can pollute the water and ultimately, kill the marine life. Look for unbleached products to lessen the negative effects that we have on the environment. Chlorine bleach breaks down into a dioxin, a dangerous, non-biodegradable poison that is toxic to wildlife and humans.

**Chlorofluorocarbons (CFC's):** synthetic chemicals found in some aerosol cans and in the processing of certain plastics. CFC's are one of the main culprits for destroying the ozone layer. Better alternatives are products that come in pump spray containers. Avoid products that contain CFC's.

**Dioxin:** the most toxic substance known to science. 95% comes from the burning of PVC plastic in incinerators and the rest from the process of bleaching wood pulp to make paper products. Most human exposure comes from eating meat and dairy products because it builds up in the animal's systems and then our bodies when we eat it. It causes cancer and reproductive problems.

**Endocrine Disruptor:** A chemical or natural substance that interferes with the normal functions of natural hormones in the body that are responsible for the maintenance of cell metabolism, reproduction and/or behavior.

## Label Terms

- \* **DANGER** could kill an adult if only a tiny pinch is ingested.
- \* **WARNING** could kill an adult if about a teaspoon is ingested.
- \* **CAUTION** could kill an adult if an amount from two tablespoons to two cups is ingested.

**Off-gassing:** is the release of a gas that was dissolved, trapped, frozen or absorbed in some material.

**Parabens:** a widely used synthetic preservatives found in the majority of personal care products. Parabens can disrupt the endocrine system, and were found in the breast cancer tumors of 19 of 20 women studied.

**PBT Persistent Bioaccumulative Toxins (PBTs):** substances that can build up to levels that can be harmful to human and ecological health. These contaminants travel long distances in the atmosphere and can move readily from land to air and water. They do not break down easily because of their persistence and bioaccumulative properties. PBTs include man-made and naturally occurring substances. Many of these substances have only been in existence for a relatively short period of human history. A few of these substances – mercury, for example – are naturally occurring. It is the refinement and concentrated human use of these substances that creates the problem.

Many PBTs are associated with a range of adverse human health effects, including effects on the nervous system and reproductive system, and associated developmental problems, cancer, and genetic impacts.

Particular risks may be posed to the developing fetus or young child where critical organs, such as the central nervous systems, are under development. People who eat, for economic or cultural reasons, large amounts of fish from local waters contaminated with certain PBTs may be at higher risk for adverse effects. Also, birds and mammals at the top of the food chain are often at a higher risk as a result of consuming food lower on the food chain contaminated with PBTs.

**Perchloroethylene (Perc):** a toxic solvent used in the dry cleaning process that has been linked to liver cancer.

**Pesticide:** is a chemical preparation for destroying plant, fungal, or animal pests. A mixture intended for preventing, destroying, repelling, or mitigating any pest. Also, any substance or mixture intended for use as a plant regulator, defoliant, or desiccant.

**Phosphates:** can be found in a number of laundry, dish and automatic dishwasher detergents. Problems begin when large amounts of phosphates are added to the water supply. The excess chemical creates an algae bloom which uses up the water's oxygen supply. As a result, the marine life dies due to lack of oxygen. Many companies have either reduced or eliminated the amount of phosphates within their detergents. Unfortunately, their replacement (nitrotriactic acid) does its own harm to the environment. Avoid both of these chemicals by making your own cleaners and laundry detergents.

**Phthalates:** pronounced 'thay-lates,' these chemicals are used as an additive to plastics to make them more flexible and also added to personal care products as a solvent. They have been found to disrupt the endocrine system, especially in children. They are found in products such as toys, food packaging, shower curtains, vinyl flooring, wall coverings, lubricants, adhesives, detergents, nail polish, hair spray and shampoo, just to name a few.

**Precautionary Principle:** adopted by the European Union in 1992 as the basis for regulation of toxic chemicals - holds that in the face of scientific uncertainty, government should err on the side of protecting public health and safety. In other words, if scientific evidence indicates there is a good chance that a chemical may pose a risk of irreversible harm, regulators should not wait for absolute proof before acting.

One of the major themes running through the internal chemical industry documents investigated in *TRADE SECRETS: A MOYERS REPORT* is the chemical industry's opposition to the pre-cautionary principle. It (the industry) has used its wealth to win favorable treatment from politicians, sponsored surrogates to promote the industry point of view with the media, and now is quietly pushing legislation through state legislatures that will overturn many of the gains citizens believe they have made in their fight to information about toxic chemicals.

**Toxic/Highly Toxic:** any chemical or mixture that may be harmful to the environment and/or to human health if it is inhaled, swallowed, or absorbed through the skin. (EPA)

**Triclosan:** a hormone disrupting pesticide used in antibacterial soaps, sanitizers, lotions, etc. It is potentially toxic to humans and highly toxic to aquatic life. Over use of these products can lead to an increase in antibiotic resistant super bacteria.

**Volatile Organic Compounds (VOCs):** represent photochemical smog precursors, and as such can be generally defined as 'any organic compound that participates in atmospheric photochemical reactions.'

# ENDNOTES

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