Have you ever asked yourself…

* Is there more cancer around these days?
* Why are there more pregnancy difficulties, infertility, or miscarriages?
* Why do more kids have ADHD now?
* Is male sexual dysfunction more prevalent now?
* What damage are we really doing to our planet by using plastic?
* What's causing the early onset of female puberty?

In the following report you may find answers to some of your questions

Early in 2000 my mother, Diane Collins, was diagnosed with cancer. And like many, I did an enormous amount of research looking for the magic cure. Unfortunately there wasn't one and she passed away in November 2001. However, during my research I discovered many possible causes of cancer that I'd never heard of before and whether it's a conspiracy, or simply ignorance by us, the general public, I feel it's time people became aware of some of these issues. Some are becoming mainstream, while others are still lurking in the dark.

One that was new to me was Bisphenol A (BPA). Primarily this project was established because of this chemical being "the most potent toxic chemical known to man." (Dr Frederick Vom Saal)

The other key reason for this brochure is to look after this fragile and vulnerable planet and some of the helpless animals / mammals that we share it with.

Gary Collins

What is BPA (Bisphenol A)?

BPA is widely used to make polycarbonate plastics such as those in baby bottles, water bottles and compact disc cases and is an ingredient in the resins used to line food cans. The chemical has been shown to leach into food or water. To see a complete definition of BPA, please go to www.safebottles.co.nz.

The following is a direct quote from Food Standards Australia New Zealand (FSANZ). As you will see they acknowledge that BPA and other chemicals do leach into food and liquid. However, they also say that it's not proven to be harmful and doesn't cause cancer.

"In some circumstances, chemicals in food packaging can migrate into the food product and vice versa, depending on the nature of the packaging and the food contained within.

Some studies in laboratory animals suggest that low levels of (consumed) BPA may have an effect on the reproductive system.

The move by overseas manufacturers to stop using BPA in baby bottles is a voluntary action and not the result of a specific action by regulators. However, FSANZ would support the use of alternatives to BPA in baby bottles provided they are safe.

FSANZ will continue to examine reviews from regulatory agencies and papers in the peer-reviewed literature, as they become available and determine whether any further action is required."

Food Standards Australia / New Zealand

The following articles and quotations are going to suggest that BPA is potentially harmful to men, women, children and infants. Perhaps the FSANZ hasn't read these yet.

BPA Plastics Chemical Linked to Neurological Problems
by David Gutierrez, staff writer

(NaturalNews) In the first direct evidence that bisphenol A (BPA) can be harmful primates, the chemical was observed to produce neurological problems in monkeys, in a study conducted by researchers from Yale School of Medicine and published in the Proceedings of the National Academy of Sciences.

"Our findings suggest that exposure to low-dose BPA may have widespread effects on brain structure and function," the researchers wrote.

In the current study, researchers exposed monkeys to BPA levels that the Environmental Protection Agency has ruled safe for humans.

"Our goal was to more closely mimic the slow and continuous conditions under which humans would normally be exposed to BPA," researcher Csaba Leranth said.

The monkeys went on to develop mood disorders and irregular brain function.

The Food and Drug Administration (FDA) continues to classify BPA as safe, basing its ruling only on the findings of two industry-funded studies.

The science behind BPA

BPA bypasses a major barrier system that controls natural estrogen, and stops natural estrogens from getting into cells.

Dr Frederick Vom Saal did a study with mice and found that a dose 25 times lower than what anybody had ever tested before, they damaged the entire developing reproductive system

This is precisely what makes BPA unique and our body responds to extraordinarily low doses of it. What we have in our cells are dozens of receptors for hormones. And the estrogen receptor has the ability to respond to BPA as just about a single molecule per cell. Vom Saal calls BPA "the most potent toxic chemicals known to man."

As you get higher and higher doses of BPA, it actually shuts down the estrogen response system and begins to activate other systems that it wouldn't activate at low doses. And at a high enough dose, BPA starts altering your ability to produce normal thyroid hormone. So what you get at high dose is totally different effects. You don't get the estrogen effects anymore. You just get all kinds iof other things. So high doses are harmful, but in an entirely different way than what you see at low doses.

There are over 200 independent scientists, not in conflict financially with this chemical, saying we find it relating to obesity, prostate cancer, brest cancer, diabetes, and brain disorders such as attention deficit hyperactivity disorder, liver disease, ovarian disease, disease of the uterus, low sperm count for men and the list goes on.

Six Baby Bottle Manufacturers Quietly Agree to Remove Bisphenol-A (BPA) from Baby Bottles
by Mike Adams, the Health Ranger, NaturalNews Editor

(NaturalNews) After years of insisting Bisphenol-A (BPA) posed no threat to the health of babies, six larger manufacturers of baby bottles have announced they will stop shipping new baby bottles made with the chemical. No existing baby bottles are being recalled, however. Nor are they being taken off the shelves of retailers. The baby bottles being purchased and used by babies right now still contain BPA, a hormone disruptor chemical linked to serious health problems like breast cancer and reproductive abnormalities.

It's important to note here that these companies are all removing a chemical that they claim is perfectly safe. In other words, they're essentially saying, "It's not bad for ya, but we're takin' it out anyway." No doubt they have realized that admitting BPA is dangerous would unleash a flood of lawsuits. It's safer to just quietly take it out now, before there's any talk of lawsuits about mutant children growing adult breasts at age seven or other similar side effects.

The real health damage caused by BPA, after all, will take many years to become evident. And by that time, most people will have forgotten that baby bottle companies once used this chemical in their products.

BPA shows up in the bloodstream of 95 percent of Americans. BPA is a common compound found in plastic. There may be some in your water bottle or jug. It is also in the plastic lining of cans of soft drinks and beer. Canned foods, food storage containers, pacifiers, baby teethers, and dental sealants may contain BPA.

The plastic industry will tell you that small amounts of BPA are nothing to worry about. A study published in the journal Environmental Health Perspectives, however, suggests that when mice are exposed to low levels of BPA for several days, they develop insulin resistance.

Best Choices From the People's Pharmacy
by Joe Graedon, M.S. and Teresa Graedon, Ph.D.
Available on Amazon.com

Plastics made from polycarbonate resin can leach bisphenol-A (BPA), a potent hormone disruptor. BPA, a chemical found in epoxy resin and polycarbonate plastics, may impair the reproductive organs and have adverse effects on tumors, breast tissue development, and prostate development by reducing sperm count.

BPA can leach into water bottles through normal wear and tear and exposure to heat and cleaning agents. This includes leaving your plastic water bottle in your car during errands, in your backpack during hikes, and running it through your dishwasher or using harsh detergents.

A 2007 review of 700 studies involving BPA, published in the journal Reproductive Toxicology, found that infants and fetuses were the most vulnerable to adverse effects from this toxic substance.

An accompanying study in the same issue of the journal by researchers at the National Institutes of Health found uterine damage in newborn animals exposed to levels of BPA consistent with normal human exposure. This finding may also implicate BPA as a cause of endometriosis and other reproductive tract disorders that occur in women later in life, decades after being exposed as fetuses and/or infants.

A 2003 study conducted by the University of Missouri published in the journal, Environmental Health Perspectives, found that detectable levels of BPA leached into liquids at room temperature. This means just having your plastic water bottle sitting on your desk can be potentially harmful. The best thing to do is to avoid plastic altogether. (Side note: Baby bottles made from polycarbonate plastics have quietly disappeared from the market despite industry assurances that polycarbonate plastics are safe.)

From Belly Fat to Belly FLAT: How Your Hormones Are Adding Inches to Your Waistline and Subtracting Years from Your Life
by C. W. Randolph, M.D.
Available on Amazon.com

The authors of the above study on BPA and breast cancer risk in rats also linked the reported incidence of endocrine-dependent human cancers to even the minimal levels of estrogen-like chemicals, particularly BPA, to which pregnant women are exposed.

An August 2, 2007, consensus statement by several dozen scientists warned that BPA, even at very low exposure levels, is probably responsible for many human reproductive disorders.

Hormone Deception
by D. Lindsey Berkson
Available on Amazon.com

The statement, published online by the journal Reproductive Toxicology, was accompanied by a new study by researchers from the National Institutes of Health finding uterine damage in newborn animals exposed to BPA.

The researchers indicated that such damage is a possible predictor of reproductive diseases in women, including fibroids, endometriosis, cystic ovaries and cancers. Earlier studies linked low dose BPA to female reproductive-tract disorders, as well as early-stage prostate and breast cancer, as well as decreased sperm counts in animals.

Timeless Secrets of Health & Rejuvenation:
Unleash The Natural Healing Power That Lies Dormant Within You
by Andreas Moritz
Available on Amazon.com

In 2004, one researcher counted up all of the studies done to date on just BPA. Of 104 studies done by independent researchers, 94 found adverse effects. None of 11 studies conducted by the chemical industry's researchers on BPA identified adverse effects. In the wake of the mounting data that endocrine disruptors wreak havoc on the human immune system, in 2005 the National Institutes of Health stated that investigations of exposures to pesticides and estrogenic compounds as triggers of autoimmune disease - about which we still know far too little -- are now of "considerable research interest."

The Autoimmune Epidemic
by Donna Jackson Nakazawa
Available on Amazon.com

The latest study showed that women with a history of miscarriages were found to have higher levels of BPA in their bodies. The women who had miscarriages were found to have BPA levels on average about three times higher than women

who had successfully given birth, according to an online food industry
website. The scientists concluded that while a high level of Bisphenol-A did not in itself predict subsequent miscarriage, exposure to the chemical is associated with recurrent miscarriage.

Safe Trip to Eden: Ten Steps to Save Planet Earth from the Global Warming Meltdown
by David Steinman
Available on Amazon.com

BPA is commonplace -- found in copious brands of fruit, vegetables, soda, and other frequendy eaten canned goods. It migrates from the can or plastic into the contents, which are then ingested. What's most troubling about the recent reports of BPAs prevalence, which emerged in 2007 and was featured prominently in the media, is that it remains entirely without safety standards.

It is allowed in unlimited amounts in consumer products, drinking water, and food, the top exposure source for most people.

BPA is at unsafe levels in one of every ten servings of canned foods (11 percent) and one of every three cans of infant formula (33 percent). BPA, found in everything from baby bottles and water cooler jugs to bicycle helmets, CDs, and the inside lining of tin cans, is associated with a number of health problems and diseases that are on the rise in the United States population, including breast and prostate cancers and infertility.

The Detox Strategy: Vibrant Health in 5 Easy Steps
by Brenda Watson and Leonard Smith
Available on Amazon.com

The results reinforce other data showing that new polycarbonate bottles leach small amounts of BPA, which in animal tests has been shown to cause "abnormalities in the mammary and prostate glands and the female eggs of laboratory animals" as well as accelerating puberty and adding to weight gain.

What's even scarier: Every year, we produce 6 billion pounds of BPA, which is also found in some hard plastic water coolers, water bottles, microwave-safe dishes, even inside the linings of tin cans. We're exposed to it around the clock.

In light of these dangers from BPA exposure, in early 2008 the Canadian government's Health Canada declared BPA to be a toxic chemical.

None of these developments should come as any surprise to us, since the hormonal effects of certain synthetic chemicals, particularly DDT, (one of the most well known synthetic pesticides with a long and controversial history) on wildlife have been well-recognized since the 1950s, and were documented in Rachel Carson's classic 1962 book, Silent Spring.

Carson's book described how predatory birds at the top of the food chain were producing thin-shelled and non-viable eggs due to the estrogen-like effects of DDT.

Growing Up Green: Baby and Child Care: Volume 2 in the Bestselling Green This! Series
by Deirdre Imus
Available on Amazon.com

Associate professor of the Department of Obstetrics, Gynecology & Reproductive Sciences at Yale says that BPA changes the expression of the key developmental genes that form the uterus. Taylor suggests that when pregnant women are exposed to the estrogen mimicking properties found in BPA, it can impact the reproductive tract development and the future fertility of female fetuses. In essence this research shows that BPA may prevent the embryo from attaching to the uterus for further development.

In men the estrogen mimicking effects of BPA have been know to block some of the more important effects that testosterone has on sexual functioning. A study done in China was conducted on 550 factory workers, some of who were exposed to BPA. Those who were exposed to BPA were four times more likely than those who were not to report some sort of sexual dysfunction

Canada Bans BPA

By Lyndsey Layton and Christopher Lee
Washington Post Staff Writers
Saturday, April 19, 2008; Page A03

Canada yesterday became the first country to ban a widely found chemical from use in baby bottles, spurring a leading Democrat in the U.S. Senate to call for legislation that would prohibit use of bisphenol A, or BPA, in a number of everyday consumer products.

"We have immediately taken action on bisphenol A because we believe it is our responsibility to ensure families, Canadians and our environment are not exposed to a potentially harmful chemical," Tony Clement, the minister of health, said in a statement.

Clement said the action was based on a review of 150 worldwide studies. "It's pretty clear that the highest risk is for newborns and young infants," he said in a telephone interview.

Wal-Mart Canada began pulling all baby products containing BPA from its shelves this week, and the chain said it plans to stop selling products containing BPA in U.S. stores by next year. Playtex said it would offer free non-BPA bottles to parents and will stop using BPA in all products by year's end. Nalgene, the maker of reusable water bottles that are popular among athletes, said yesterday it would discontinue production of bottles made with the chemical and recall existing products already in its stores.

Bisphenol A Chemical in Plastic Bottles Harms Children, Feds Conclude
by David Gutierrez, staff writer

The National Toxicology Program of the National

Institutes of Health concluded in April that there is "some concern" that BPA may cause problems in fetuses, babies and children, including breast or prostate cancer, early onset of female puberty, attention deficit disorder and other problems of the reproductive and neurological systems.

The National Toxicology Program's findings "[reflect] a significant body of science showing that BPA may play a larger role than previously thought in a host of common health problems, including prostate cancer, breast cancer and early puberty," said Anila Jacob, senior scientist at Environmental Working Group.
"More research is needed to better understand [BPA's] implications for human health," the report reads. "However, because these effects in animals occur at bisphenol A exposure levels similar to those experienced by humans, the possibility that bisphenol A may alter human development cannot be dismissed."

In spite of the report's cautious wording, BPA expert Frederick vom Saal said that it is "very, very much in line" with a statement signed by 38 scientists in 2007, warning that BPA could be harming infant development.

"This is going to ripple around the world," vom Saal said. "The bottom line is there really is a convergence of opinion that is occurring."

In 2007, the U.S. Centers for Disease Control and Prevention found that 93 percent of adults and children in the United States showed evidence of exposure to BPA in their urine. Children had the highest levels of the chemicals, followed by teens. Women showed higher body burdens than men.

Bisphenol A is such a dangerous chemical that I have no doubt it will one day be banned from all food and beverage products (California is already trying to enact a ban on the chemical in children's products.

FDA Conspired with Chemical Industry to Declare Bisphenol-A Harmless
by Mike Adams, the Health Ranger, NaturalNews Editor

(NaturalNews) The FDA has been caught red-handed conspiring with the chemical industry to conclude that Bisphenol-A, the plastics chemical, is harmless to human health. As revealed by the Environmental Working Group (see below), the FDA based its evaluation of BPA on a report authored by the American Chemistry Council (ACC), a trade group that represents chemical companies and plastics manufacturers.

The FDA's evaluation concluded that BPA was perfectly safe for consumers of any age, including infants. This conclusion stands in direct opposition to the Canadian government, which declared BPA to be a toxic chemical on Oct. 18 and moved towards banning the chemical in baby bottles.

Even the U.S. National Institutes of Health says BPA may be dangerous, admitting it is concerned about BPA's "effects on development of the prostate gland and brain and for behavioural effects in fetuses, infants and children."

The following are countries have taken action against BPA - *(from Wikipedia)*

Canada
In April 2008, Health Canada assessed that the chemical may pose some risk to infants and proposed classifying the chemical as "'toxic' to human health and the environment."

Denmark
In May 2009, the Danish parliament passed a resolution to ban the use of BPA in baby bottles, which was enacted in March 2010.

Belgium
On March 2010, senator Philippe Mahoux proposed legislation to ban BPA in food contact plastics.

France
On 5 February 2010, the French Food Safety Agency (AFSSA) questioned the previous assessments of the health risks of BPA, especially in regard to behavioral effects observed in rat pups following exposure in utero and during the first months of life.

On 24 March 2010 French Senate unanimously approved a proposition of law to ban BPA from baby bottles, the proposition still depends on Assembly approval.

Chemical Industry Wrote FDA's Glowing Assessment of BPA; Chemical Lobby Admits Involvement in Drafting Agency's Position

The Milwaukee Journal Sentinel reported today that internal documents from the Food and Drug Administration (FDA) show that an agency task force assessment of the toxic plastics chemical bisphenol-A (BPA) "was written largely by the plastics industry and others with a financial stake in the controversial chemical."

The newspaper reported that the American Chemistry Council (ACC), the Washington-based trade group that represents the $664 billion U.S. chemical industry, commissioned a review of all studies of the neurotoxicity of bisphenol-A and submitted it to the FDA. The FDA then used that report as the foundation for its evaluation of the chemical on neural and behavioral development.

The FDA's stance conflicts with the position of National Institutes of Health's National Toxicology Program, which last month concluded that people are being exposed to BPA at levels which raise "some concern" for "effects on development of the prostate gland and brain and for behavioral effects in fetuses, infants and children."

Earlier this month the Journal Sentinel disclosed that University of Michigan toxicologist Martin Philbert, Ph.D., chair of a key science advisory panel guiding the FDA's continuing review of BPA's potential health risks, failed to disclose to the agency a $5 million gift from Charles Gelman, the retired head of Gelman Sciences, a medical device manufacturing company which used BPA in its products, to the univ ersity Risk Science Center which Philbert directs.

(NaturalNews) Charles Gelman, a retired manufacturer of syringes and medical filtration devices who considers Bisphenol A (BPA) to be "perfectly safe", gave $5 million to the research center headed by Martin Philbert, the chairman of a Food and Drug Administration panel about to rule on the chemical's safety. The donation is nearly 25 times larger than the $210,000 annual budget of the University of Michigan Risk Science Center, where Philbert is founder and co-director. Philbert failed to disclose the donation to the FDA, and agency officials only learned of it through reporters

Plastic Outrage - Children in Danger from Bisphenol A

by Byron Richards, Health Freedom Editor

Last month the Journal of the American Medical Association published a study of 1400 adults and found that those with the most BPA in their urine had nearly three times the risk of heart disease, more than twice the risk of diabetes, as well as signs of liver damage. Unfortunately, the levels of BPA that were associated with disease are within the EPA's industry-friendly levels of "safety.

Under consumer demand the FDA was forced to take a position on BPA and recently declared in the face of a mountain of negative evidence that "products containing BPA currently on the market are safe and that exposure levels ... are below those that may cause health effects." To reach this decision the FDA appeared to rely on two studies funded by plastic manufacturers, ignoring hundreds of negative studies.

The release of the alarming JAMA study in September was timed for an FDA Advisory Panel that is to review the issue further. The release of the six new studies in Environmental Research this month is also targeted to pressure the FDA.

"Not only are these studies of scientific importance, they also contribute to the ongoing U.S. congressional hearings involving the Food and Drug Administration," remarked Gert-Jan Geraeds, Publisher of Environmental Research, "As such, "The Plastic World" has a broader societal impact and raises awareness of increasingly important environmental issues."

Why Isn't the FDA Taking Action?

In a crisis situation the FDA acts first to protect the economic interests of those who are causing harm. The FDA knows that if it dictates something should be removed from the market it will open a floodgate of lawsuits.

Another angle on the problem is that these chemicals massively pollute our oceans, are getting into the food supply as well as adversely affecting many species of life, and are accumulating in our groundwater.

BPA is one of a number of plastic-related chemicals of concern, with around 7 billion pounds a year of production causing widespread contamination of planet Earth.

BPA is a fat-soluble neurotoxin and hormone disrupter, meaning that it crosses the blood brain barrier and causes nerve damage while upsetting the metabolic applecart. Primate studies clearly show it causes a loss of cognitive function and memory.

Exposure in infants and children may cause permanent damage to their developing nervous system.

Nutrition For Runners
BOTTLE DRAMA

Due to recent warnings, many runners are wondering if our plastic water bottles belong in the recycling bin.

By Christie Aschwande PUBLISHED 09/03/2008

They're in our cars and gym bags. But due to recent warnings, many runners are wondering if our plastic water bottles belong in the recycling bin. Bisphenol A (BPA), a chemical in polycarbonate bottles, has been linked to cancer, reproductive issues, and endocrine damage in animals. And while research is needed to determine whether BPA is dangerous to humans, animals given low doses of BPA - an amount equivalent to what people are presumed to ingest - have experienced health problems, says Scott Belcher, Ph.D., a runner and cell biologist at the University of Cincinnati.

The FDA says polycarbonate bottles are safe, and a panel from the National Institutes of Health concluded that there is only "negligible concern" regarding BPA's effects on adults. Still, many people (including Belcher) prefer to avoid BPA. And the industry has responded: Nalgene has stopped making their bottles with BPA; Patagonia has pulled polycarbonate bottles from store shelves. Because runners can't stop drinking on the go, we asked some experts to weigh in on the plastic bottles available.

Bottled water

The polyethylene terephthalate ethylene (PETE) in these bottles doesn't contain BPA, but when scratched or heated, other chemicals could be released into your water, says Kathleen Schuler, author of the Institute for Agriculture and Trade Policy's Smart Plastics Guide.
Expert's take: Use just once.

Soft plastic bottles

Low-density and high-density polyethylene (LDPE, HDPE) bottles are BPA-free, but the plastic degrades with heat and harsh soaps.
Expert's take: A good choice, but hand wash and rinse regularly. Water that sits too long develops a plastic-like taste.

Old Nalgene bottles

These were made of polycarbonate, which contains BPA. BPA can get into water, especially when the plastic is heated.
Expert's take: Federal regulators consider these bottles safe, but Belcher recommends BPA-free versions.

MindFood.Com

BPA is in many sports bottles, water cooler jugs, and baby bottles. These are usually marked by a "7" inside the recycling symbol (though not all "7" products contain BPA).

Heating these bottles can be particularly problematic: When scientists poured boiling water into a "7" plastic bottle, BPA entered into the water 55 times faster than when they used water at room temperature. So don't put your sports bottle (or a baby bottle) into the dishwasher or microwave.

On the other hand, you may be relieved to hear that most of the single-serving water bottles sold at grocery stores don't contain BPA. They're made of polyethylene terephthalate (PETE or PET), designated by a number "1" in the recycling sign.

But even though PETE doesn't contain BPA, it does contain other chemicals called phthalates - which are also believed to be endocrine disruptors.

Like BPA, these chemicals leach into the water more quickly when the plastic is heated, so don't leave these water bottles in a hot car or out in the sun

www.BreastChek.co.nz

There are enough warning signs to show the need to act sooner rather than later. There are growing concerns about bottled water in particular in plastic bottles. The safest option is stainless steel…

The poison lurking in your plastic water bottle
By JO KNOWSLEY, Daily Mail

Bottled water: Health fears

A Potentially deadly toxin is being absorbed into bottled mineral water from their plastic containers. And the longer the water is stored, the levels of poison increase, research reveals. As the sell-by date on many bottled waters is up to two years, scientists have now called for extensive further studies.

The research by world expert Dr William Shotyk - who has vowed never to drink bottled water again - will be published in the Royal Society of Chemistry's journal next month. It is sure to revive concerns about the safety of bottled water, the world's fastest-growing drinks industry, worth £1.2billion a year.

The tests found traces of antimony, a chemical used in the making of polyethylene terephthalate (PET) bottles, used by most mineral-water sellers.

Small doses of antimony can make you feel ill and depressed. Larger quantities can cause violent vomiting and even death. The study stressed that amounts of antimony were well below official recommended levels. But it also discovered that the levels almost doubled when the bottles were stored for three months.

Professor Shotyk, of Heidelberg University in Germany, said: "I don't want to shock people but here's what I know: Antimony is being continuously released into bottled drinking water. The water in PET bottles is contaminated."

He tested ground water and 15 types of bottled mineral water in his native Canada. The ground water contained two parts per trillion (ppt) of antimony. Bottled water had an average 160 ppt of antimony when opened immediately after bottling. But ground water stored in a PET plastic bottle had 630 ppt of antimony when opened six months later.

Professor Shotyk then tried the experiment in Europe, collecting 48 brands of water in PET bottles and water from its source in the ground at a German bottling plant. The water had four ppt of antimony before being bottled, the contents of a new bottle had 360 ppt and one opened three months later had a staggering 700 ppt.

Antimony finds its way into water by 'leaching' from the plastic in the same way that water absorbs flavour from a teabag. Health authorities said even the higher levels of antimony found are way below official safety guidelines, set at around six parts per billion by international environment agencies.

Elizabeth Griswold, director of the Canadian Bottled Water Association, added: "The levels do not pose a risk to humans. They are simply trace elements."

But David Coggan, a Southampton University-based epidemiologist who works with the Medical Research Council, called for further research into the findings.

He said not enough was known about the effects of antimony and how much had to be consumed before it became dangerous. Last year naphthalene, which can cause liver damage in high doses, was found in two bottles of Volvic mineral water. Bacteria which could leach into bottled water has been cited as a possible reason for rising levels of food poisoning.

Bottled Water Vs. Tap Water
By Janet Majeski Jemmott

Chemicals, contaminants, pollution, price: new reasons to rethink what you drink and beware of bottled water.

Growing Thirst
From Reader's Digest

Remember the drinking fountain, that once ubiquitous, and free, source of H2O? It seems quaint now. Instead, bottled water is everywhere, in offices, airplanes, stores, homes and restaurants across the country. We consumed over eight billion gallons of the stuff in 2006, a 10 percent increase from 2005.

It's refreshing, calorie-free, convenient to carry around, tastier than some tap water and a heck of a lot healthier than sugary sodas. But more and more, people are questioning whether the water, and the package it comes in, is safe, or at least safer than tap water -- and if the convenience is worth the environmental impact.

What's in That Bottle?

Evocative names and labels depicting pastoral scenes have convinced us that the liquid is the purest drink around. "But no

one should think that bottled water is better regulated, better protected or safer than tap," says Eric Goldstein, co-director of the urban program at the Natural Resources Defense Council (NRDC), a nonprofit organization devoted to protecting health and the environment.

Yes, some bottled water comes from sparkling springs and other pristine sources. But more than 25 percent of it comes from a municipal supply. The water is treated, purified and sold to us, often at a thousandfold increase in price. Most people are surprised to learn that they're drinking glorified tap water, but bottlers aren't required to list the source on the label.

This year Aquafina will begin stating on labels that its H2O comes from public water sources. And Nestlé Pure Life bottles will indicate whether the water comes from public, private or deep well sources. Dasani acknowledges on its website, but not on the label itself, that it draws from local water.

Labels can be misleading at best, deceptive at worst. In one notorious case, water coming from a well located near a hazardous waste site was sold to many bottlers. At least one of these companies labeled its product "spring water." In another case, H2O sold as "pure glacier water" came from a public water system in Alaska.

Lisa Ledwidge, 38, of Minneapolis, stopped drinking bottled water a couple of years ago, partly because she found out that many brands come from a municipal supply. "You're spending more per gallon than you would on gasoline for this thing that you can get out of the tap virtually for free," she says. "I wondered, Why am I spending this money while complaining about how much gas costs? But you don't ever hear anyone complain about the price of bottled water." Ledwidge says she now drinks only filtered tap water.

The controversy isn't simply about tap vs. bottled water; most people drink both, knowing the importance of plenty of water. What they may not know is that some bottled water may not be as pure as they expect. In 1999 the NRDC tested more than 1,000 bottles of 103 brands of water. (This is the most recent major report on bottled water safety.) While noting that most bottled water is safe, the organization found that at least one sample of a third of the brands contained bacterial or chemical contaminants, including carcinogens, in levels exceeding state or industry standards. Since the report, no major regulatory changes have been made and bottlers haven't drastically altered their procedures, so the risk is likely still there.

The Plastic Problem

Most bottled water comes in polyethylene terephthalate bottles, indicated by a number 1, PET or PETE on the bottle's bottom. (No, it's not the same phthalate mentioned earlier.) The bottles are generally safe, says Ken Smith, PhD, immediate past chair of the American Chemical Society's division of environmental chemistry. But scientists say when stored in hot or warm temperatures, the plastic may leach chemicals into the water.

Brenda Decker, 45, of Lake Stockholm, New Jersey, used to buy bottled water in bulk and store it in the crawl space under her house, where it was exposed to high temperatures. But a friend who owns a natural food store recently warned her that the plastic could leach chemicals into the water. So Decker has stopped buying bottled water and is going back to the tap. "It's a process, but I'm willing to go with it to make sure my kid is healthy. That's my biggest drive."

High temperatures in your storage space aren't the only potential risk; so are the other things you keep there. Experts advise against storing water in the garage, near gas fumes, pesticides and other chemicals that could, at the very least, affect the smell and taste of the H2O.

It's not just where you store your water, but what you do with it as you carry it with you. Many people sip from a bottle that's been sitting in a hot car, a potentially dangerous move. "Leaving bottled water out in the car changes the chemical equilibrium so that the materials from the plastic go into the water faster," says Smith.

When 22-year-old Amy Dowley, a senior at Vassar College in Poughkeepsie, New York, heard about these risks, she was worried. "I never drank bottled water, because I knew the water from my tap was clean and healthy, but I used to fill used plastic soda or juice bottles with tap water to carry around," she says. Now she uses a stainless steel Klean Kanteen portable container or fills a cup from the sink. "Any way we can cut back on plastic is a good thing."

"Are there hazards associated with these chemicals?" asks James Kapin, a chemical safety consultant in San Diego. "Absolutely." But as with many debates on chemicals, the exact health risks are unknown. "We very rarely get black-and-white answers for the health effects of long-term exposure. At some point, I hope, there will be a scientific consensus."

In the meantime, experts have raised a warning flag about a few specific chemicals. Antimony is a potentially toxic material used in making PET. Last year, scientists in Germany found that the longer a bottle of water sits around (in a store, in your home), the more antimony it develops. High concentrations of antimony can cause nausea, vomiting and diarrhea. In the study, levels found were below those set as safe by the EPA, but it's a topic that needs more research.

Last summer, a National Institutes of Health (NIH) committee agreed that bisphenol A (BPA), a chemical found in polycarbonate (used to make watercooler jugs, sport-water bottles and other hard plastics, but not PET), may cause neurological and behavioral problems in fetuses, babies and kids. A separate NIH-sponsored panel found that the risk was even greater, saying that adult exposure to BPA likely affects the brain, the female reproductive system and the immune system. The FDA has reviewed these reports and says it will keep monitoring the data to see if the agency needs to take regulatory action.

The potential health risks are important to understand, but bottled water also affects the health of the planet.

"Bottled water is an increasingly growing business, and with that comes a whole lot of environmental impact that can be avoided by a turn of the faucet," says Jenny Powers of the NRDC. While we struggle to cut down on our consumption of fossil fuels, bottled water increases them. Virgin petroleum is used to make PET, and the more bottles we use, the more virgin petroleum will be needed to create new bottles. Fossil fuels are burned to fill the bottles and dis-tribute them. (Stephen Kay of IBWA points out that it's not just bottled water, but juices, soda

and other beverages packed in plastic that add to this waste.)

Some brands of water come from islands and countries thousands of miles away, and shipping bottles can cause carbon pollution to spill into the water and spew into the air.

Then there's the waste of water itself, says Todd Jarvis, PhD, associate director of the Institute for Water and Watersheds at Oregon State University. According to his calculations, it takes about 72 billion gallons of water a year, worldwide, just to make the empty bottles.

Treating and filtering tap water for bottling creates even more waste. By some estimates, it takes about two liters of water to make every liter you see on store shelves. "Bottled water has a significant environmental burden," says the NRDC's Goldstein.

A big part of the appeal of bottled water is those convenient single-serving bottles. Yet fewer than 20 percent of them ever make it to a second life, according to estimates by the Container Recycling Institute. The rest are tossed onto beaches and roadsides and into landfills, where they could be around for a thousand years. Nestlé Waters, Dasani and other bottlers are trying to be greener, introducing lighter-weight bottles that use up to 30 percent less plastic.

It's a good start, but more needs to be done - by them, and by us.

What You Can Do

Worried about the toll your bottled water habit has on you or the earth? Take these steps.

Try the tap again. First, check it out. If your water comes from a public source (rather than a well), you should get a water-quality or consumer-confidence report from the water company once a year. It's also available at any time from the local water utility. Read the report carefully, making sure not only that your water has received a passing grade overall but also that contaminants haven't exceeded the maximum allowable levels, even for a short while. If you have well water, get it tested every year.

Get a canteen. Carry your plain or filtered tap water in a reusable stainless steel or lined drinking container, and clean it between uses. Some come with an easy-to-tote strap. We like the stainless steel options.

Think twice about the office watercooler. If it's made of polycarbonate, it has the potential to leach BPA, a chemical that can cause neurological problems, among other things. And have you ever seen anyone actually clean the watercooler? Probably not.

Shop smart. When you must have bottled, look for brands that have NSF certifica-tion or belong to IBWA. Check out the lists at nsf.org or bottledwater.org, or look at the bottle itself (the NSF logo appears on labels of tested brands). If the brand you're looking for isn't there, contact the bottler. Ask where the water is bottled and what exactly is in it.

Keep it cool. Don't drink from a bottle that's been subjected to high temperatures (sitting in your car, for example), don't store it anywhere it will be exposed to heat or chemicals, and don't reuse plastic bottles.

Go with glass. Choose glass containers (Eden Springs and Voss are two popular brands) over plastic whenever possible. When you're done, recycle!

BPA Has Not Gone Away
by Aaron Turpen, citizen journalist

(NaturalNews) Most readers of NaturalNews are well aware of the health concerns around bisphenol A (BPA). Most parents know that everything their baby comes in contact with should be BPA-free. BPA has been linked to heart disease, sexual dysfunction, and more. Yet despite all of this, as well as concerns from the FDA, the chemical can be found everywhere - usually in places you don't suspect.

Even with all of the reasons to be worried about what BPA could be (or is known to be) doing to us, however, it is still all over the food supply world-wide, including here in the U.S. This is evidenced by the recent study which was also highlighted here at NaturalNews where 90% of cord blood from babies was found to contain BPA.

What most people are unaware of is that BPA is still widely used in the food industry. If you consume anything in a can (soda, canned foods, etc.) or anything in polycarbonate plastic containers (not labeled as BPA-free), or if you regularly microwave those plastic containers, put them in the dishwasher at high temperatures, or put hot foods directly into them after cooking,... you are being exposed to BPA.

If you have a baby that you are formula feeding, you are likely exposing your child to BPA through the formula itself, which is almost assuredly packaged in a BPA-lined can.

It is estimated that most Americans consume up to 1.5 nanograms per kilogram (rated by blood) per day. Bottle-fed infants have a rate up to ten times that and even breast-fed infants have an exposure similar to their nursing mother or maid.

This translates to significant internal exposure to BPA for everyone. This is all because it is still commonly used in many food containers and is one of the toxins being dumped into oceans and landfills along with the huge amount of plastics we discard daily - which eventually wind up in our water.

In most countries, BPA is legal in food storage - including baby bottles, containers, and so forth. Very few companies are using BPA-free containers for anything. In fact, very few national governments have done anything on the question of BPA.

On the other hand, market forces have responded quickly. The demand for BPA-free baby bottles, pacifiers, and other infant items has been responded to with fast action from the companies who make these baby items. Most are now proudly labeled BPA-free in order to encourage parents to buy them.

While governments drag their feet, everyday people (who make up the market to which these companies sell their goods) are

demanding BPA-free goods of all types. Some companies are beginning to respond, with at least one baby formula and food manufacturer now offering all products as BPA-free. Some companies which offer bottled (versus canned) foods are now touting their BPA-free status as well.

How about you, reader? Are you demanding that BPA be kept out of contact with your food?

Drinking From Plastic Raises BPA Levels 70 percent
by David Gutierrez, staff writer

A number of major retailers, including Toys R' Us, Wal-Mart, Nalgene, Gerber, Playtex and others, have agreed to phase out the chemical in some countries

The state of Minnesota has banned the use of BPA in food containers intended for children three and younger, as have Chicago and New York's Suffolk County. California and Connecticut are also considering banning the substance

Scientists Around the World Condemn FDA for Declaring BPA is Safe
by David Gutierrez, staff writer

(NaturalNews) An international consortium of experts on the toxic chemical bisphenol A (BPA) has issued a statement condemning the FDA's insistence that the chemical is safe.

"It is becoming undeniable that BPA is dangerous," said Laura Vandenberg of Tufts University. "The FDA's standard for safety is reasonable certainty. It is no longer reasonable to say that BPA is safe."

The chemical is considered a major public health threat due to its prevalence and to the fact that it builds up in the bodies of humans and other animals. Children in particular have trouble filtering the toxin out of their bodies. High levels of BPA in the body have been shown to interfere with the effectiveness of medical procedures such as chemotherapy and liver tests.

In the past 10 years, 130 different scientific studies have linked BPA to health problems, even at doses far beneath the levels considered safe by the FDA.

Yet the FDA continues to insist that the chemical is safe, based only on two industry-funded studies. The European Food Safety Authority has also relied on these studies to give BPA a clean bill of health.

(NaturalNews) After years of insisting Bisphenol-A (BPA) posed no threat to the health of babies, six larger manufacturers of baby bottles have announced they will stop shipping new baby bottles made with the chemical.

Once again, the following is a direct quote from the Food Standards Australia New Zealand (FSANZ). As you will see they acknowledge that BPA and other chemicals do leach into food and liquid. However they also say that's not proven to be harmful and doesn't cause cancer.

"In some circumstances, chemicals in food packaging can migrate into the food product, and vice versa, depending on the nature of the packaging and the food contained within."

Currently the FSANZ and FDA maintain that low dose exposure to BPA is harmless. These findings are based on 2 studies funded by the chemical industry. Meanwhile there's been more than 200 independent studies carried out where scientists "are concerned" about our exposure to BPA.

Needless to say my opinion is that if concern exists today, and is backed up backed up reputable scientific research, then why not try to limit yours and your childrens' exposure to this chemical. Not to mention the fact that some governments and states throughout the world have already banned BPA to some extent.

My thoughts are the government should make it mandatory to disclose which bottles and items have BPA and which ones don't.

I've given away more than 100 SafeBottles, made from top quality, food grade, 18/8 stainless steel to friends, family and work colleagues, to avoid any potential risk of disease. And by using SafeBottles not only are we reducing the risk of disease, but also we're also making a significant difference in helping the planet.

The following are some startling facts that I guarantee will change your way of thinking and hopefully your actions – they've changed mine.

Plastics and the Environment

- On average people use 168 plastic water bottles each per year
- We spend on average $588.00 per person on water bottles each year
- It takes 700 years before plastic bottles start to decompose and can take up to 1000 years to fully decompose
- Approximately 86% of plastic bottles aren't recycled in USA, in NZ it's 78%
- Approximately 1500 bottles end up in landfills and the ocean **every second**
- 60 million plastic water bottles are used each day in the US alone, 30 million in Europe, **more than 100 million worldwide every day**
- It takes 3-5 litres of water to make 1 empty plastic bottle
- Plastic bottles are a petroleum product and use 151 billion litres of oil to produce each year. That's enough to run 500,000 cars per year
- The water industry uses a further 1.7 billion litres of oil in distributing the water bottles around the USA alone
- 2,500,000 tons of carbon dioxide is produced in the

manufacturing of plastic bottles each year
- Up to 24% of bottled water comes directly from the tap (USA)
- United Nations Environment Programme estimates that in every single square mile of the sea, there's 46,000 pieces of plastic floating worldwide
- 80% of all rubbish in the ocean comes from activities from the land, 20% from the activities at sea
- Algalita Marine Research Foundation recently did a study of 660 fish that shows on average each fish contained more than 2 pieces of plastic. One fish had 26 particles
- The Algalita Marine Research Foundation estimates as much as 1 million pieces in 1 square km in the Great Pacific Garbage Patch
- There's an area estimated to be the size of Texas (some say twice the size) in the Pacific Ocean known as the Great Pacific Garbage Patch that is a swirling mass of plastic trash
- Many researches and environmental organisations list plastic as the number one threat to our marine environment
- Plastic kills millions of birds, animals and fish every year because they eat it, get caught in it or choke on it
- More than 80 species of seabirds have been found to ingest plastic
- 90% of Laysan Albatross chick carcasses contain plastic
- In turtles, plastic has been shown to block intestines and make the animals float so they can't dive for food
- 8 million items of marine litter have been estimated to enter oceans and seas every day
- In a 1998 survey, 89 per cent of the litter observed floating on the ocean surface in the North Pacific was plastic
- The AMRF in 2002 found 6 kilos of plastic for every kilo of plankton near the surface. This can be as much as 30-60 times in some places
- 70% of the marine litter that enters the sea ends up on the seabed
- It takes about 272 billion litres of water a year, worldwide, just to make the empty bottles
- It's expected that in 2010, for every single person on this planet we'll use 100 pounds of plastic, most of which will take 1000 years to decompose
- Plastics are like diamonds they really are forever.

Distribution of Marine Litter – United Nations Environment Programme
by Jo Hartley, citizen journalist

Despite actions taken nationally and internationally, the situation with regard to marine litter is continuously getting worse.

Globally: There are no recent and certain figures on the amounts of marine litter worldwide. Nor are there any such global figures on the annual input of marine litter to the marine and coastal environment. In 1997, the US Academy of Sciences estimated the total input of marine litter into the oceans, worldwide, at approximately 6.4 million tonnes per year.

According to other calculations, some 8 million items of marine litter have been estimated to enter oceans and seas every day, about 5 million of which are thrown overboard or lost from ships. Furthermore, it has been estimated that over 13,000 pieces of plastic litter are floating on every square kilometre of ocean surface.

In a 1998 survey, 89 per cent of the litter observed floating on ocean surface in the North Pacific was plastic. The Algalita Marine Research Foundation (AMRF) has conducted surveys to compare the quantities of plastic fragments floating on the ocean surface to the availability of food with which they are mixed. In the central Pacific gyre, the AMRF in 2002 found 6 kilos of plastic for every kilo of plankton near the surface.

About 3,500 plastic resin pellets per km2 have been reported floating on the surface in the Sargasso Sea. Near industrial centres in New Zealand, concentrations of up to 100,000 pellets were observed in one km2 of beach.

According to figures from the North Sea, as well as from the water around Australia, it has been estimated that up to 70 per cent of the marine litter that enters the sea ends up on the seabed, whereas half of the remaining amount is found on beaches and half floating on the water surface.

Despite international and national efforts made during the last two decades, there are no clear indications that the quantities and distribution of marine litter are decreasing, either globally or regionally.

Most of us have heard that there is a swirling mass of plastic trash in the pacific called The Pacific Garbage Patch that is similar in size to Texas. A lot of this plastic is mistaken as food by birds and fish, and releases toxic chemicals into the water – that can eventually end up as our dinner.

However many people don't know that there is 5 such gyres across the worlds oceans.

(Natural News) Bottled water is typically considered to be a healthy alternative to drinking plain tap water. In fact, Americans drink approximately eight million gallons of bottled water every year. While bottled water is definitely a better choice than soft drinks or sports drinks that contain high fructose corn syrup, bottled water is not a good choice for the wellbeing of the earth. Here are some of the health and environmental issues associated with consuming bottled water.

1. It takes three to five times more water to manufacture the plastic water bottle than actually is contained in the water bottle itself. Because each bottle should only be used one time (so as not to contaminate water with phthalates) this seems to be an inordinate amount of water utilized in the manufacturing process.

2. Plastic is a petroleum product so using plastic water bottles depletes this non-renewable resource. The Pacific Institute has calculated that the manufacturing process for making plastic water bottles used in the US consumes roughly 17 million barrels of oil every year.

3. Plastic water bottles are not recycled the way they should be. It is estimated that in 2005 only about 12% of plastic water bottles were recycled. This is partly because water bottles are many times not included in local recycling plans. Another factor is that bottled water is often consumed away from home and so is disposed of in mixed-trash containers instead of being recycled. In a 2002 study by Scenic Hudson it was reported that 18 percent by volume of recovered litter from

the Hudson River was beverage containers. In landfills, water bottles will remain biodegrading for approximately 1,000 years. Incinerating used water bottles produces toxic byproducts including chlorine gas and ash that contains heavy metals.

4. Roughly 94 % of the bottled water in the U.S. is bottled domestically. Of this percentage, approximately 25 percent sold is just reprocessed municipal water according to a 1999 study by the National Resources Defense Council.

5. Using plastic bottles that contain Bisphenol A is detrimental to human health. Bisphenol A behaves similarly to estrogen. This means that when enough of this accumulates in the body there will be negative health effects. Bisphenol A has been linked to obesity, diabetes, breast cancer, and hyperactivity.

Alternatives to Plastic Bottles:

Stainless steel and glass water bottles are safer and more earth-friendly. There are also many companies manufacturing BPA-free and phthalate-free plastic water bottles.

Whatever kind of plastic is used, it is important to hand wash any plastic food and beverage items in warm (not hot) water. Washing plastic items at the high and sustained temperatures of an automatic dishwasher is detrimental to human health and should be avoided at all costs.

BPA hormone disruptor now contaminates Earth's oceans, scientists warn
by S. L. Baker, features writer

(NaturalNews) Earlier this year, research linked bisphenol A (BPA), a common component of plastics and a powerful hormone disrupter, to heart disease. Now, in the March issue of the Journal of the Federation of American Societies for Experimental Biology, researchers have reported yet another newly discovered danger posed by BPA. Hugh S. Taylor, M.D., professor in the Department of Obstetrics, Gynecology and Reproductive Sciences at Yale University, and his research team have found for the first time that BPA exposure during pregnancy can cause abnormalities in the uterus of offspring and permanent alterations in DNA.

But at least you can avoid plastics and therefore avoid exposure to the BPA, right? Unfortunately, another group of scientists has just announced that's getting harder and harder to do. Bottom line: there is now solid evidence that Earth's oceans have been contaminated on a global scale with BPA.

Katsuhiko Saido, Ph.D., of Nihon University in Chiba, Japan, and his colleagues announced their startling and worrisome findings at the 239th National Meeting of the American Chemical Society held in San Francisco recently. He stated that the massive BPA contamination of oceans resulted from hard plastic trash thrown in the seas as well as from another surprising source -- the epoxy plastic paints used to seal the hulls of ships.

"This new finding clearly demonstrates the instability of epoxy, and shows that BPA emissions from epoxy do reach the ocean. Recent studies have shown that mollusks, crustaceans and amphibians could be affected by BPA, even in low concentrations," Dr. Saido said in a statement to the media.

The scientists noted that light, white-foamed plastic decomposed rapidly at temperatures commonly found in the oceans, releasing the endocrine disruptor BPA. It isn't just soft plastics that leach BPA, either.

"We were quite surprised to find that polycarbonate plastic biodegrades in the environment," Dr. Saido explained. "Polycarbonates are very hard plastics, so hard they are used to make screwdriver handles, shatter-proof eyeglass lenses, and other very durable products. This finding challenges the wide public belief that hard plastics remain unchanged in the environment for decades or centuries. Biodegradation, of course, releases BPA to the environment."

Dr. Saido's research team analyzed sand and seawater from over 200 sites in 20 countries, including areas in Southeast Asia and North America. Every site tested contained what Dr. Saido labeled as "significant" amounts of BPA, ranging from 0.01 parts per million (ppm) to 50 ppm.

Dr. Saido pointed out that littering currently results in about 150,000 tons of plastic debris washing up on the shores of Japan alone each year. In addition, a huge area of plastic waste known as the Great Pacific Garbage Patch, which is about two times the size of Texas, now contaminates the area between California and Hawaii. "Marine debris plastic in the ocean will certainly constitute a new global ocean contamination for long into the future," Dr. Saido predicted in the press statement.

In yet more BPA news, Rolf Halden, associate professor in the School of Sustainable Engineering at Arizona State University and assistant director of Environmental Biotechnology at the Biodesign Institute, has just published a sobering research article on the hazards of chemical-loaded plastics. His findings, which are included in the latest issue of the Annual Review of Public Health, provide more evidence that plastics in garbage dumps, landfills and the world's oceans are an ever-increasing toxic problem.

In fact, Dr. Halden concluded in his paper that plastics and their additives such as BPA aren't only around us; they are inside virtually every human. The chemicals show up in blood and urine tests because they are ingested with the food we eat, the water we drink and from other environmental exposures.

"We're doomed to live with yesterday's plastic pollution and we are exacerbating the situation with each day of unchanged behaviour," Dr. Harden said in a press statement. "We are at a critical juncture and cannot continue under the modus that has been established. If we're smart, we'll look for replacement materials, so that we don't have this mismatch -- good for a minute and contaminating for 10,000 years."

"We live in a plastic convenience culture; every human being on this planet uses plastic materials directly and indirectly every single day," Watson said. "Our babies begin life on Earth by using some 210 million pounds of plastic diaper liners each year; we give them plastic milk bottles, plastic toys, and buy their food in plastic jars." Unending amounts of plastic pellets wash onto beaches worldwide.
In New Zealand, one beach was found to contain over 100,000 pellets per square meter. Thus, it is not so farfetched to

suggest that people are in fact sunbathing on plastic beaches - literally.

"On the beach on San Juan Island, Washington, Allison Lance walks her dogs every morning," Watson said. "She carries a plastic bag in her hand to carry the bits and pieces of plastic debris she picks up. Each morning she fills the bag, but by the next morning there is always another bag to be filled. Joey Racano does the same in Huntington Beach further south in California. The harvest of plastic waste is never-ending. Allison's and Joey's beaches, and practically every beach around the world is similarly cursed."

Bottled Water's Environmental Toll
Eco Footprint

• The energy used each year making the bottles needed to meet the demand for bottled water in the United States is equivalent to more than 17 million barrels of oil. That's enough to fuel over 1 million cars for a year.

• If water and soft drink bottlers had used 10% recycled materials in their plastic bottles in 2004, they would have saved the equivalent of 72 million gallons of gasoline. If they had used 25%, they would have saved enough energy to electrify more than 680,000 homes for a year.

• In 2003, the California Department of Conservation estimated that roughly three million water bottles are trashed every day in that state. At this rate, by 2013 the amount of un-recycled bottles will be enough to create a two-lane highway that stretches the state's entire coast.

• In 2004 the recycling rate for all beverage containers was 33.5 percent. If it reached 80 percent, the reduction of greenhouse gas emissions would be the equivalent of removing 2.4 million cars from the road for a year.

• That bottle that takes just three minutes to drink can take up to a thousand years to biodegrade.

A clear look at water bottles

BY Luz Claudio | Oct 13, 2008

Chemicals from water bottles can seep into drinks and may have long-lasting health implications.

….On the other hand, you may be relieved to hear that most of the single-serving water bottles sold at grocery stores don't contain BPA. They're made of polyethylene terephthalate (PETE or PET), designated by a number "1" in the recycling sign.

But even though PETE doesn't contain BPA, it does contain other chemicals called phthalates - which are also believed to be endocrine disruptors.

Like BPA, these chemicals leach into the water more quickly when the plastic is heated, so don't leave these water bottles in a hot car or out in the sun.

Bisphenol-A (BPA) Fact Sheet
Created by: Tamara Adkins

What is BPA?

Bisphenol-A was first synthesized in 1891. As early as the 1930s, it was documented that BPA mimicked estrogen in the human body. In the 1940s, chemical engineers began to make plastic and epoxy from BPA. Today, about 4 million tons of BPA are produced annually worldwide. Over 90% of BPA is made by Bayer, Mitsubishi, Teijin Chemicals, Dow Chemicals, and GE Plastics (which was recently acquired by Saudi Basic Industries Corporation).

What are the uses of BPA?

The most widely known use of BPA is as the building block of polycarbonate plastic (which often has the number 7, the resin code for "other," in the chasing arrows symbol).Polycarbonate is used to make most baby bottles, 5-gallon water cooler bottles, and many other products. Since Canada declared BPA toxic in April 2008, Wal-Mart, REI, and even Nalgene have promised to phase out the sale of polycarbonate bottles.

An investigative report by the Milwaukee Journal Sentinel (Nov 15, 2008) found that all ten plastic food containers that they heated (via microwave or in conventional ovens) leached enough BPA to cause the toxic effects noted in low-dose laboratory studies. All of these containers were marked "microwave-safe." We absorb BPA through our skin when we touch gas station receipts and other thermal carbonless papers coated with BPA dust. Because it is used in some printer inks, BPA has even contaminated the recycled paper stream. Paperboard food packing (such as pizza boxes) now contains traces of BPA.

Almost all metal food and beverage cans in the US are lined with an epoxy coating that leaches BPA. BPA is also used as a flame retardant (both as BPA and in a brominated form) in other plastics, especially PVC.

BPA is an ingredient in many other products, including dental sealants, pesticides, nail polish and paints. It is not possible to compile a complete list, since US law protects the secrecy of proprietary formulations.

A study conducted by the federal government found BPA in the urine of 93% of the US population. The concentrations detected ranged from 0.4 É g/l (micrograms per liter) to 149 É g/l.

Why is BPA a problem?

Like natural hormones, BPA appears to follow what is called a non-monotonic dose response curve. This means that a lower dose of BPA does NOT necessarily lead to a weaker effect. In fact, the smallest doses can lead to powerful effects that cannot be predicted by studying only higher doses.

Consider Tamoxifin. This drug treats breast cancer at high doses, but at much smaller doses can actually promote breast cancer cell proliferation. Similarly, BPA can cause different effects at different doses.

In August 2008, researchers found that BPA (at doses to which we are already exposed) inhibits the release of adiponectin, a hormone made by fat cells. This appears to lead to metabolic

syndrome: abdominal obesity, glucose intolerance, high blood sugar levels, high triglycerides, and high blood pressure, all of which increases the risk of diabetes and cardiovascular disease.

BPA already had been associated with early puberty, aneuploidy (a chromosomal defect which causes birth defects like Down's syndrome), cancer (especially of the breast and prostate), and reduced sperm count. It decreases the levels of testosterone in males.

Also linked to BPA exposure are impaired immune function, miscarriage, thyroid abnormalities, polycystic ovarian syndrome, and decreased anti-oxidant enzyme levels. In developing fetuses, BPA exposure can alter brain development and lead to permanent changes in brain chemistry. Some of these changes are "epigenetic," meaning that they affect the way our genes are expressed. Some effects are transgenerational, affecting not only the exposed man or woman but also subsequent generations.

The evaluation of BPA's safety has been fraught with controversy. The Centre for the Evaluation of Risks to Human Reproduction (a part of the National Toxicology Program) terminated their contract with Sciences Intl. after Environmental Working Group drew their attention to serious undeclared conflicts of interest. Sciences Intl. had accepted the assignment to evaluate the safety of bisphenol-A while all three staff members involved in the project were on the payroll of BPA manufacturers.

More recently, the FDA admitted that its own safety guidelines for BPA were ghost-written by the manufacturers. Why is this troubling? A review of BPA research by funding source tends to support suspicions of bias. Of 119 US government-funded studies, 92% found evidence of adverse effects after low-dose BPA treatment. Of 11 studies funded by chemical corporations, none found evidence of harm.

The House of Representatives' Committee on Energy and Commerce has opened an inquiry into the Weinberg Group, a public relations firm that runs an industry-funded campaign to "manufacture uncertainty" about the effects of BPA. One tactic of this campaign is promoting the idea that the science supporting a BPA-ban is preliminary or flawed.

What happens to BPA in the environment?

Much of our trash is burned. This process converts the BPA into other toxic chemicals such as phenol, benzene, toluene, and ethylbenzene.

Some of our BPA-containing trash is taken to landfills. While free BPA usually breaks down in a matter of days outside the body, we don't know how long it lasts while it is bound in plastic, or if it leaches into the soil and water table.

BPA is already in the ocean, where it appears to be more persistent than in fresh water.

Because polycarbonate is denser than water, it sinks to the sea floor and mixes with sand and sediment. Seafood tested in Singapore contained up to 213.1 ng/g (nanograms per gram, wet weight) BPA.

What can be done?

Safer alternatives to BPA exist. Green chemists have developed a way to use carbon dioxide instead of BPA to make polycarbonate. Japan has switched to BPA-free linings in their food and beverage cans. Some of these alternative bio-resins are made from soy, corn, and vernonia weed.

In June, Rep. Edward J. Markey (D-Mass.) introduced the "Ban Poisonous Additives (BPA)" Act that would prohibit the use of BPA in all food and beverage containers. Track the bill's progress at: http://www.opencongress.org/bill/110-h6228/show