# Colgate Toothpaste Chemical Linked to Cancer

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# Best-Selling Toothpaste Contains Hazardous Endocrine-Disrupting Chemical **August 27, 2014 | 23,068 views**

**By Dr. Mercola**

Some of the most obvious ones include soaps and antibacterial wipes, but you can also find it in cutting boards, toys, clothing, household furnishings, pet food dispensers, and much more.

Despite the pervasive use of this chemical, troubling questions linger about its potentially harmful effects, especially for children.

Research has shown that triclosan can alter hormone regulation and may interfere with fetal development.

Animal studies have also raised concerns about its ability to affect fertility, and bacteria exposed to triclosan may also become resistant to antibiotics. Even an increased cancer risk has been suggested.

In short, while you're disinfecting your body and your home to keep your family safe from potentially harmful bacteria, you may actually be causing far more harm than good in the long run.

## Triclosan Removed from Soap, But Still Found in Best-Selling Toothpaste

Three years ago, Colgate-Palmolive responded to safety concerns brought forth by consumer groups by removing triclosan from its soap products. But the company left it in its best-selling toothpaste, Colgate Total. (Colgate Total is the only triclosan-containing toothpaste sold in the US.)

But if triclosan can cause serious health problems when used topically, surely using it in your mouth is not going to be any safer, as chemicals are readily absorbed in your oral cavity.

For example, zinc-containing denture creams like Fixodent, Poligrip, Super Poligrip, and others, have been linked to zinc poisoning.[1] Toxic effects include serious neurological problems, including neuropathy.

There are even class-action lawsuits underway by people who have been poisoned by their denture creams. With regards to triclosan-containing toothpaste, Bloomberg[2] reports:

*"Total is safe, Colgate says, citing the rigorous Food and Drug Administration process that led to the toothpaste's 1997 approval as an over-the-counter drug.*

*A closer look at that application process, however, reveals that some of the scientific findings Colgate put forward to establish triclosan's safety in toothpaste weren't black and white -- and weren't, until this year, available to the public."*

## Toxicology Studies Withheld from Public View

According to the featured Bloomberg report, 35 pages of summaries of the toxicology studies performed on triclosan were initially withheld by the Food and Drug Administration (FDA).

They only became available via a Freedom of Information Act request from the Natural Resources Defense Council (NRDC). The toxicology summaries are now available on the FDA's website.[3]

A crucial point that has been noted before is that the FDA relies on company-backed science to "prove" that a drug or product is safe and effective. This despite the fact that industry-funded research is almost never impartial, thanks to obvious and massive conflicts of interest.

Many people still do not take this into consideration. They believe that "FDA approved" means that the FDA has performed some sort of independent scientific study. It hasn't.

At best, the FDA carefully reviews the research submitted, but there's plenty of room for cherry-picking and other strategies that can skew the safety profile. According to the featured report:

*"The recently released pages, taken alongside new research on triclosan, raise questions about whether the agency did appropriate due diligence in approving Total 17 years ago, and whether its approval should stand in light of new research, said three scientists who reviewed the pages at Bloomberg News's request."*

## Triclosan Is One of the Most Prevalent Endocrine-Disrupting Chemicals on the Market

For example, some animal studies showed that triclosan caused fetal bone malformations in mice and rats. Colgate claimed the findings were irrelevant. But bone deformations may hint at hormonal effects, affecting the endocrine system. There were also apparent weaknesses in Colgate's cancer studies.

Endocrine-disrupting chemicals are a serious concern, as they can promote a wide variety of health problems, including: breast, ovarian, prostate, and testicular cancer, preterm and low birth weight babies, precocious puberty in girls, and undescended testicles in boys.

According to Thomas Zoeller, a biology professor at the University of Massachusetts Amherst who specializes in how chemicals affect the endocrine system, there are an estimated 800-1,000 endocrine-disrupting chemicals on the market.

But triclosan is one of the top 10 used on a regular basis by most people. Subsequently, removing triclosan may have a much greater impact than removing other chemicals.

## Other Disinfectant Chemicals That May Cause More Harm Than Good

A recent article in *Scientific American*[4] also discusses new research showing that *other* common household disinfectants produce adverse health effects too. The study, published in *Reproductive Toxicology*,[5] assessed the reproductive toxicity of alkyl dimethyl benzyl ammonium chloride (ADBAC) and didecyl dimethyl ammonium chloride (DDAC).

These two disinfectants are commonly found in commercial and residential disinfectant products. (These quaternary chemicals are commonly referred to as "quats.") Mice exposed to these chemicals took longer to get pregnant and had smaller litters. They also had more miscarriages and more distressed fetuses. Forty percent of the exposed females died from labor difficulties. According to the authors:

*"The results suggest that quaternary ammonium compounds affect both the maternal ability to achieve and sustain pregnancy and the developing fetus... Long term exposure decreased fertility and fecundity and caused dam mortality in a dose dependent manner. This study highlights the importance of testing the toxicity of mixtures over individual compounds."*

## Safety Problems Are Often Found by Chance...

An interesting side note here is the back story of how researchers were prompted to investigate these chemicals (ADBAC and DDAC) in the first place. According to *Scientific American*:

*"Hunt and Hrubec came upon the finding unexpectedly. Both observed breeding problems in research mice at their separate facilities after changing to disinfectant products containing the quat combination. Hunt determined that quat residues in the caging materials contributed to breeding failures and poor pregnancy outcomes.*

*For Hunt, the experience was a bit of déjà vu: In 1999, she discovered what was then a little-known chemical, bisphenol A, in water bottles mimicked estrogen and disrupted hormone levels in her lab mice. The finding helped spur investigation of the health risks associated with BPA Hunt said both incidents illustrate a problem with the way that new and existing chemicals are regulated in the US. Thousands of products have entered the market in the past few decades with little information on potential health impacts, she said. 'The onus is really on consumers to determine which products are safe. That's not OK.'"*

When you consider this chain of events, it really raises questions about the accuracy of any number of studies into *completely unrelated* fields. A researcher may be using animals to study, say, the effects of a particular drug, and depending on the soap they use to clean the lab, the health outcomes of the animals may be skewed, for better or worse! In most cases, they may never put two and two together—unless they switch cleaning products in the middle of a trial and notice sudden alterations in their research results that cannot be explained...

## Triclosan May Affect Thyroid Function

As noted by Professor Caren Helbing Ph.D. at the University of Victoria in Canada, the chemical structure of triclosan is similar to thyroid hormones and polychlorinated biphenyls (PCBs). This similarity allows it to attach to hormone receptors. Helbing's research shows that tadpoles exposed to triclosan suffered stunted development and leg deformations. The metamorphic process these frogs undergo is mediated by thyroid hormones. Her findings were published in the *Journal of Aquatic Toxicology*[6] in 2006, which concluded that: *"Exposure to low levels of*

*triclosan disrupts thyroid hormone-associated gene expression and can alter the rate of thyroid hormone-mediated postembryonic anuran development."*

While Colgate cites a Cochrane Review[7] as supporting evidence for Colgate Total's safety and effectiveness, the review in question focused on the toothpaste's effectiveness in fighting bleeding gums and inflammation; not its long-term safety... The review, which covered more than 30 studies published between 1990-2012, found "moderate quality evidence" that Colgate Total is more effective than other toothpastes with respect to reducing gum bleeding and inflammation, but the authors, Philip Riley and Thomas Lamont, noted that the studies did not really allow them to assess any long-term adverse effects.[8]

## Antibacterial Chemicals Found in Pregnant Women's Urine and Newborns' Cord Blood

In one recent study,[9, 10, 11] traces of triclosan, triclocarban, and butyl paraben were found in the urine of pregnant women and their newborns' cord blood. The women in the study were all residents of Brooklyn, New York. This demonstrates that everyday, real-world exposure to these chemicals is indeed pervasive. Shockingly, triclosan was detected in *100 percent* of all urine samples, and 51 percent of cord blood samples. Triclocarban was detected in 87 percent of the urine samples, and 23 percent of the cord blood samples.

And, as reported by *The Atlantic*:[12] *"In another, still-unpublished study, the researchers found that all of the cord blood samples contained 'at least one paraben,' according to Dr. Rolf Halden, director of ASU's Center for Environmental Security."* Paraben esters have also been found in 99 percent of breast cancer tissue samples, suggesting a strong link between the chemical and breast cancer development.

Making matters worse is that there's very little evidence that antibacterial products will actually help you avoid disease. So you're exposing yourself to these harmful chemicals for no good reason... Most recently, a randomized trial[13] investigating the effectiveness of hand sanitizers in a school setting found that they "did not prevent disease of severity sufficient to cause school absence."

## Other Toothpaste Chemicals to Beware of

There are also other chemicals in toothpaste that may do more harm than good. Fluoride is one obvious one that I've written about quite extensively. But many toothpastes also contain surfactants like sodium laurel sulfate, sodium laureth sulfate (SLS) or sodium lauryl ether sulfate (SLES). Surfactants are chemicals responsible for the foaming action of the toothpaste.

But these chemicals can also interfere with the functioning of your taste buds. As noted in a previous Lifehacker article,[14] they suppress taste receptors responsible for tasting sweet notes. As noted in the article, they also *"break up the phospholipids on our tongue. These fatty molecules inhibit our receptors for bitterness and keep bitter tastes from overwhelming us, but when they're broken down by the surfactants in toothpaste, bitter tastes get enhanced."*

This is thought to be the reason why everything tastes so bad right after you've brushed your teeth. So, choosing a toothpaste that does not contain SLS or SLES will allow you to taste your food properly after brushing your teeth. This may also be part of why coconut oil works so well for oral hygiene, as it helps maintain a more natural balance of lipids on your tongue, while still having potent antibacterial properties.

## Keeping Yourself and Your Home Clean, Safely

I strongly encourage you to ditch all of your chemical disinfectants, including your antibacterial soaps, laundry detergents, and bath and kitchen cleansers, in favor of more natural alternatives. No study has shown that a vigorous program of home disinfection leads to a reduction of illness in a family. They have, however, shown that disinfectants can cause harm. It is best to use any soap minimally on your body as it removes the sebum that your body produces, which is full of beneficial fats designed to protect your skin from infection. Using soap will remove not only dirt but also these useful fats.

For those times when you need to do a bit of cleansing, one of the best non-toxic disinfectants is a mild soap and warm water. You can use this for washing your hands, your body, and for other household cleansing. Another all-purpose cleanser that works great for kitchen counters, cutting boards, and bathrooms is 3% hydrogen peroxide and vinegar. Simply put each liquid into a separate spray bottle, then spray the surface with one, followed by the other.

In tests run at Virginia Polytechnic Institute and State University, pairing the two mists killed virtually all *Salmonella*, *Shigella*, and *E. coli* bacteria on heavily contaminated food and surfaces when used in this fashion, making this spray combination more effective at killing these potentially lethal bacteria than chlorine bleach or any commercially available kitchen cleaner. The best results came from using one mist right after the other -- it is 10 times more effective than using either spray by itself and more effective than mixing the vinegar and hydrogen peroxide in one sprayer.

Coconut oil also has potent disinfectant properties, and can be used to disinfect wooden cutting boards. Sunlight is another powerful disinfectant, and drying your laundry in the sun is one of the best ways to save energy and wind up with fresh, clean linens and clothing. Truly, there's no need to expose your family to dangerous chemical disinfectants. As an added bonus aside from the health benefits, using this type of natural homemade cleanser is much less expensive than commercial varieties.