

# Toxic Chemicals in Tampons May Increase Your Health Risks

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## STORY AT-A-GLANCE

- › Years of silence about feminine hygiene products has made it easier for manufacturers to produce them without undue scrutiny into the processes and chemicals used
- › Advocates rallied in Washington to support a bill requiring manufacturers disclose ingredients in tampons and sanitary pads, and another directing the National Institutes of Health to determine if the chemicals pose a health risk
- › Seek out products made from organic natural fibers, without toxic chemicals, or consider making your own reusable pads at home

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Until just the last decade, the topic of menstruation was not discussed in mixed company. Women hid their [feminine hygiene products](#) and used code words to refer to their period and menstrual cramps. Discussions about the ingredients in these products were also not openly deliberated.

However, recognizing the danger women face using some of these products, activists have worked hard to normalize the conversation about monthly periods in order to improve the products available.

Open conversation has resulted in many choosing natural alternatives for personal care products that contain toxic ingredients, such as lotions, deodorants and [cosmetics](#). But

the same cannot be said about feminine products. Period Equity<sup>1</sup> and Women's Voices for the Earth (WVE) are working to change this.

Activists are calling for new rules and are willing to rally in Washington to be sure politicians are aware of their concerns, which include regulation of feminine product ingredients. They are calling for testing of the ingredients to ensure safety for women, who use period protection up to 500 times in their lifetime.

## **Feminine Hygiene Products Are Classified as Medical Devices**

The U.S. Food and Drug Administration (FDA) regulates **tampons and sanitary pads** as medical devices,<sup>2</sup> a classification which offers the manufacturers certain protections and holds specific tax status as well. As discussed in the short video above, many feminine hygiene products contain toxic chemicals.

Manufacturers of medical devices are not required to disclose all ingredients in their products, but the FDA recommends they provide general information about the material composition used to produce the product.<sup>3</sup>

Individual ingredients are not required, but listing materials such as cotton, rayon or nylon is suggested. In other words, manufacturers who produce materials you may place directly against your skin for hours at a time are not required to tell you exactly what's in those products.

The FDA offers recommendations but the manufacturers are not required to follow even these.<sup>4</sup> Most **cotton** is genetically engineered (GE) and soaked in pesticides as it is not a consumable product. However, inserting a GE cotton tampon into your vagina several times each month may be worse than ingesting pesticides from **GE food**, considering the highly permeable nature of the vaginal wall.

The ingredients that make up the fragrance added to some of these products, which fall under the category of cosmetics, is also unregulated.<sup>5</sup> Once again, the FDA does not regulate the ingredients, and they do not require those ingredients be released to the consumer.

## **Political Push to Publish Ingredients in Feminine Products**

In 2017, a bill was introduced in the House of Representatives, called the Menstrual Products Right to Know Act,<sup>6</sup> which would require feminine hygiene product manufacturers to list all ingredients on the package. A rally in Washington was held in support of this bill and organized by WVE, who released a report in 2013, "Chem Fatale," detailing toxic chemicals in feminine care products.<sup>7</sup>

Rep. Grace Meng, D-NY (6th District), stated,<sup>8</sup> "We want women to be able to know what chemicals are in these products, which come in direct contact with our bodies."

Tampons and sanitary pads are produced for, and marketed to, women with the promise they will give her a "fresher feeling" or "greater confidence,"<sup>9</sup> promoting good health and better sex appeal. But a closer look reveals products designed to be in close proximity to an absorbent part of a woman's body are sold with ingredients that have little to no data assuring their safety.

This \$3 billion industry produces products used by up to 85% of women, distributing chemicals with considerable data gaps.

Another bill – The Robin Danielson Feminine Hygiene Product Safety Act (H.R. 1708)<sup>10,11</sup> – was first introduced by former U.S. representative Carolyn B. Maloney, D-NY, in 2015, and then reintroduced in 2017 under H.R. 2379. The proposed act would direct the National Institutes of Health to determine if the chemicals used in the production of feminine hygiene products pose a health risk to the women using them.<sup>12</sup>

This is the 10th time the bill has been introduced, and has never left the committee. Past history indicates it may take more public support and rallies for the proposed changes to legislation to pass, protecting the health of women and girls. A third bill, the Menstrual Equity for All Act of 2017 (H.R. 972), was introduced by Rep. Grace Meng.<sup>13</sup>

This bill focuses on ensuring access to menstrual products for women of few means, such as the homeless, female prisoners and low-income households.

## Are There Tolerable Levels of Dioxin?

One cost of doing business with sanitary pads and tampons are the toxic chemicals used to produce the product and bleach them snow white. The purification and bleaching process with chlorine products may leave traces of dioxins in the product.<sup>14</sup> According to WVE's "Chem Fatale" report:

*"Exposure to dioxins and furans has been linked to cancer, reproductive harm and endocrine disruption. Unfortunately ... testing results reveal that both dioxins and pesticide residue are found in tampons."*

Dioxins are persistent organic pollutants that are highly toxic, damage your immune system and may interfere with your hormone system.<sup>15</sup> Nearly 90% of your **exposure to dioxins** is through food, as they take a long time to break down, enabling the chemical to be distributed up the food chain. The FDA's analysis of dioxin in tampons found a tolerable absorption of dioxin,<sup>16</sup> based on tolerable monthly intake of dioxin set by the Joint Expert Committee on Food Additives.

However, the toxicity of dioxin and persistence in the environment would lead you to believe there should be no tolerable level. As dioxins are highly toxic, causing significant developmental, reproductive<sup>17</sup> and immune system problems, and as most people have environmental and food exposure, the World Health Organization recommends prevention is best done by strictly controlling industrial processes to reduce the formation of dioxin.<sup>18</sup>

It would appear that setting tolerable monthly exposure levels for an organic compound that is persistent and enabling manufacturers to release products with these toxic chemicals, does not adequately protect the health of the people using the products. An analysis by WVE, which acquired public patent documents held by Proctor & Gamble (the maker of Tampax and Always), showed the following chemicals may be in your tampons:<sup>19</sup>

Creped cellulose wadding

Meltblown polymers

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Chemically stiffened fibers, polyester fibers, peat moss and foam	Tissue wraps and laminates
Super absorbent gels and open-celled foams	Myreth-3-myristate (as lubricant) (U.S. Patent # 5,591,123)
Natural and synthetic zeolites (as odor-absorbing particles) (U.S. Patent # 5,161,686)	Alcohol ethoxylates
Unnamed antibacterial agents (U.S. Patent # 8,585,668)	Cancer-causing chemicals such as: styrene, pyridine, methyleugenol and butylated hydroxyanisole (scented products)
Phthalates of concern (DEP and DINP) (scented products)	Synthetic musks (potential hormone disruptors) (scented products)
Glycerol esters, polysorbate-20 (as surfactants to disperse fragrance)	Numerous allergens (scented products)

## Back to Biology – Vaginal Chemical Exposure Is Unique

A woman's vaginal tissue is far more permeable than the rest of her skin, making women especially vulnerable to chemicals and other irritants that are pressed against these susceptible tissues for hours at a time. Vaginal tissue is full of blood vessels and lymphatic vessels, making it a direct entryway for chemicals to the rest of your body. The WVE report "Chem Fatale," makes note of this, reporting:<sup>20</sup>

*"In fact, there is considerable interest in vaginal drug delivery systems because the vagina is such an effective site to transfer drugs directly into the blood without being metabolized first."*

Not only are chemicals rapidly absorbed, but some hormone-like substances enjoy a "higher than expected exposure,"<sup>21</sup> and avoid hepatic first-pass metabolism that drugs administered orally would normally undergo.<sup>22</sup> The physical structure of the vaginal wall also increases the likelihood of absorption into the bloodstream as rugae (a series of ridges on the vaginal wall) increase the surface area and help retain chemical exposure and increase absorption.<sup>23</sup>

Thus, direct exposure to your system without first-pass hepatic clearance may increase toxicity of cancer-causing chemicals, for which little research has been done regarding direct exposure to the vagina. Pesticide contamination, toxic chemical byproducts and undisclosed chemicals therefore pose a hidden health risk to women.

## Toxic Shock Syndrome

Tampons may also create a favorable environment for bacterial growth in the vagina. Tampon use may increase the risk of micro tears in the wall, allowing bacteria to enter directly into your blood stream and increase your risk of toxic shock syndrome (TSS).

TSS may be caused by either *Staphylococcus aureus* (staph) or group A streptococcus (strep) bacteria and may be life-threatening. It is important to recognize the symptoms of the condition as early treatment improves your outcome. Seek medical help if any of the following arise while using a tampon:

Sudden high fever	Vomiting
Diarrhea	Low blood pressure
Seizure	Rash on palms or soles of your feet
Muscle aches	Redness of your eyes, mouth and/or throat

## The Tampon Tax

Adding insult to injury, although feminine hygiene products are regulated as a medical device, they are taxed at the sales counter, unlike other medical devices. According to the U.S. Internal Revenue Service (IRS), sales tax on medical devices are paid by the manufacturer:<sup>24</sup>

*"Generally, no action is required by individual consumers. Because the tax is imposed upon the sale of a taxable medical device by the manufacturer or importer, the manufacturer or importer is responsible for reporting and paying the tax."*

New York, Illinois, Connecticut and the District of Columbia have begun taking steps to eliminate sales tax on tampons for the consumer as they are a medical necessity for women with a functioning menstrual cycle.<sup>25</sup>

## **Safer Feminine Care Alternatives**

Many of the feminine care products found on grocery store shelves are made with rayon, viscose and cellulose wood fluff pulp – not cotton, let alone organic cotton. Rayon and viscose have highly absorbent fibers that may stick to your vaginal walls when the tampon is removed. These loose fibers stay inside the vaginal vault and raise your risk of absorbing greater amount of toxins from the fabric.

It is important to note that tampons made with rayon don't appear to present a higher risk of TSS than cotton. It is the absorbency level that has the greatest association.<sup>26</sup> The higher the absorbency rating and the longer you leave the tampon in place, the higher the risk of developing a bacterial infection that may lead to TSS.

Fortunately, there are safer alternatives for women, including products made with certified organic cotton. When shopping for natural alternatives, look for products that are chlorine-free, synthetic-free and toxin-free. Natural products should also be hypoallergenic and fragrance-free, reducing your risk of a reaction. Another alternative is the Diva Cup, which works in a way similar to a diaphragm, allowing you to avoid tampons altogether.

The first disposable pads were available in the U.S. in 1896,<sup>27</sup> before which women used reusable pads they sewed and washed at home. While reusable pads are not advertised on television, and you may cringe at the thought, they can be made from organic and natural material and are very functional.

In the last 20 years, the design and function of the disposable pad has advanced significantly. Consider taking advantage of the improved design to make your own pads at home, reducing your exposure to toxic chemicals and the additional financial and environmental cost of using disposable products.

## Sources and References

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- <sup>2, 4</sup> [U.S. Food and Drug Administration, July 27, 2005](#)
- <sup>3, 8, 12, 14</sup> [New York Times, May 24, 2017](#)
- <sup>5</sup> [U.S. Food and Drug Administration, FDA Authority Over Cosmetics](#)
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- <sup>9</sup> [Women’s Voices for the Earth, Chem Fatale Report](#)
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- <sup>11</sup> [Maloney.House.gov \(Archived\)](#)
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