# Should We All Be Switching to Organic Period Products?

Organic period products are becoming more popular, often marketed as a safer, more sustainable choice. But are they really better for our health? Concerns about chemicals in period products, from toxic metals to hormone-disrupting substances, have many people rethinking what they put in or near their bodies every month. So, what does the science say? Should we all be making the switch?

# Why Should I Care About My Period Products?

Between menarche and menopause, the average menstruator will use over 10,000 period products. That adds up to around 5 years of continuous use. Yet, we know relatively little about how the chemicals in these products are absorbed by the body over time.

Vaginal and vulva tissues are highly absorbent<sup>2</sup> – much more than the skin elsewhere on the body. Safety limits for harmful chemicals are typically based on how substances are processed through digestion, but vaginal absorption is a more direct route to the bloodstream.<sup>3</sup> If period products contain harmful chemicals, they could potentially enter the body more easily, raising concerns – especially when it comes to endocrine disruptors.

# **What Are Endocrine Disruptors?**

Endocrine-disrupting chemicals (EDCs)<sup>4</sup> are substances that mimic, block or interfere with your hormones. Your hormones make up your endocrine system, which regulates everything from metabolism to reproduction. EDCs have been linked to reproductive disorders,<sup>5</sup> developmental problems and an increased cancer risk.

Some of the most concerning EDCs found in period products are:

- Phthalates: found in plastics
- Bisphenols (like BPA): found in plastics
- Pesticides: used in non-organic farming

EDCs are everywhere – in our environment, food, and everyday products like soaps, cosmetics and cleaning supplies. While it's pretty much impossible to avoid them completely, we can make informed choices to limit our exposure.<sup>6</sup>

## Organic Vs Non-Organic, What's The Difference?

Regular period products are usually made from a mix of cotton, rayon, and synthetic materials, sometimes treated with chlorine or other chemicals during processing.

Meanwhile, organic period products tend to be made from materials that are:

- Plant-based (like certified organic cotton)<sup>Z</sup>
- Sustainably farmed and environmentally friendly
- Grown with regulated, natural and non-synthetic pesticides<sup>8</sup>
- Not genetically modified (non-GMO)

However, it's a myth that "natural" automatically means "non-toxic" and the rules about what qualifies as "organic" can vary. Unlike organic food, period products aren't regulated by a single global standard.

In the US, tampons are classified as medical devices, while across the UK and Europe, they're treated as consumer products with fewer rules. In the UK, a plaster is more regulated than a tampon. Let that sink in.

So, the real issue isn't just organic vs. non-organic – it's the lack of transparency. We need more independent testing and clearer labeling so we can make informed choices based on facts, not just marketing.

## What's Inside Period Products?

A 2023 systematic review<sup>10</sup> analysed 15 studies to build a clearer picture of the chemicals found in period products. However, only one study compared organic and non-organic options.<sup>11</sup>

Here's what the review found:

#### Volatile Organic Compounds (VOCs)

VOCs<sup>12</sup> are air pollutants found in fragrances, adhesives, and aerosol sprays. Some VOCs are known carcinogens, meaning they can increase the risk of cancer. Tampons tend to have higher VOC concentrations than pads or liners, but results varied across studies, making comparison tricky. In Korea, researchers tested 504 pads, detecting 50 out of 74 possible VOCs. One study showed organic tampons don't necessarily contain fewer VOCs than regular brands.<sup>11</sup>

### Phthalates

Phthalates are used in packaging to make plastic more flexible and can leach into products. They've been shown to interfere with hormone function and have been linked to reproductive health issues. The review found phthalates in most period products across multiple countries, with liners showing the highest concentrations.<sup>13</sup>

#### Dioxins

Dioxins are byproducts of chlorine bleaching, historically used in tampon production. They're linked to serious health problems like cancer, immune issues and hormonal disruption. Although modern manufacturing methods have reduced dioxin levels, the review still found them in both pads and tampons across six studies, with pads showing higher levels compared to tampons. Dioxin levels were below safety thresholds but there's no guidance on vaginal absorption.

#### Fragrances

Fragranced period products are common and include synthetic scents and VOCs. These are thought to disrupt hormones, but more research is needed to compare chemical levels in scented vs unscented products. Just two studies focused on fragrance chemicals in period products, with one finding high levels of hexyl cinnamal in liners.<sup>15</sup>

## • Bisphenols

Environmental phenols like BPA and BPF are chemicals found in plastics and resins. They can leach into products and have been linked to multiple health concerns, including hormonal disruption. One study detected BPA in 92% of tampons, 69% of liners and 72% of pads tested, with pads showing the highest levels.<sup>13</sup>

The key takeaway from this review? We need more research – not just on the chemicals inside period products but on how they interact with the body and how much is actually absorbed.

## **What About Heavy Metals?**

A 2024 study went viral when it found heavy metals in tampons. <sup>16</sup> Researchers tested 24 tampon types from 14 brands, looking for 16 different metals. Every tampon tested contained arsenic, cadmium and lead – metals known to be toxic. <sup>17</sup>

Interestingly, organic and non-organic tampons showed different metal concentrations:

- Organic tampons contained more arsenic, calcium and iron.
- Non-organic tampons contained more barium, cadmium and lead.

This is likely due to natural fertilisers and soil conditions in farming. Since metals naturally occur in soil and water, <sup>18</sup> they end up in materials like cotton (even when it's organic).

While this study made headlines, it had some big limitations: 19

- Their findings were inconsistent.
- Their sample size was relatively small.
- Their methods failed to replicate real-life conditions.

Most importantly, the amount of metal found in tampons was well below safety limits.

The real question is: how much, if any, of these metals are absorbed into the body? Right now, we don't have enough data on vaginal absorption to say for sure.

## What Are The Health Risks?

Harmful chemicals and heavy metals in period products sound alarming, but the actual risk is difficult to measure. Ultimately, it depends on:

- How much of a substance leaks out of the product.
- Whether it enters the bloodstream in harmful amounts.

So far, research has <u>not</u> shown that period products (organic or not) cause harm at typical exposure levels.

But the safety limits we have for these chemicals aren't based on vaginal absorption. Ultimately, we don't fully understand the long-term effects of ongoing exposure, which is why some people choose to be cautious and go for organic.

One thing is clear: we need more research.

# So, Should I Switch to Organic Period Products?

When it comes to safety, there's no conclusive evidence to compare organic and non-organic period products directly. Organic doesn't mean "completely chemical-free", and the lack of clear regulations makes it difficult to know exactly what's inside. That said, organic products are generally less likely to contain synthetic additives, fragrances or pesticides.

If reducing chemical exposure is important to you, you might consider:

- Looking for brands with independent testing.
- Choosing fragrance-free products (organic or not).

• Trying reusable options (like cups, discs, pants, or removable pads). Cups and discs are made of medical-grade silicone,<sup>20</sup> which can last up to 10 years and doesn't degrade in the same way plastics do.

At the end of the day, the best period product is the one that works for you. Until we have more research and stronger regulations, making an informed choice is the best we can do.

#### Sources:

- 1. <u>Menstrual products as a source of environmental chemical exposure: A review from the epidemiologic perspective</u>
- 2. The vulvar epithelium differs from the skin: implications for cutaneous testing to address topical vulvar exposures
- 3. The vagina as a route for drug delivery: a review
- 4. Endocrine Society: Endocrine-Disrupting Chemicals (EDCs)
- 5. <u>The Potential Relationship Between Environmental Endocrine Disruptor Exposure and the Development of Endometriosis and Adenomyosis</u>
- 6. ChemTrust: Toiletries, Cosmetics and Menstrual Products
- 7. Global Organic Textile Standard: Organic Fibres
- 8. The list of organic pesticides approved by the USDA
- 9. <u>Menstrual tampons and vaginal pessaries: regulation of intravaginal medical devices by the US FDA</u>
- 10. Chemicals in menstrual products: a systematic review
- 11. <u>Volatile organic compounds in feminine hygiene products sold in the US market: A</u> survey of products and health risks
- 12. Volatile Organic Compounds
- 13. Phthalates, bisphenols, parabens, and triclocarban in feminine hygiene products from the United States and their implications for human exposure
- 14. Exposure Assessment to Dioxins from the Use of Tampons and Diapers
- 15. Sensitizing fragrances in absorbent hygiene products
- 16. Tampons as a source of exposure to metal(loid)s
- 17. <u>Heavy Metals and Pesticide Toxicity in Agricultural Soil and Plants: Ecological Risks and Human Health Implications</u>
- 18. Advances in application of cotton-based adsorbents for heavy metals trapping, surface modifications and future perspectives
- 19. Immunologic: Harmful Levels of Lead in Tampons?! Not so fast...
- 20. Transformative Impact of Menstrual Cup: A Game Changer

#### **Further Resources:**

- Endocrine Society
- CHEM Trust
- Immunologic by Dr Andrea Love
- Made Safe: The Ultimate Guide to Period Products
- Made Safe's Guide to a Nontoxic Period
- Period Nirvana: Reusable Period Care
- The 8 Best Organic Pads of 2024, Tested & Reviewed
- Organic Cotton Accelerator