

# SEEING RED

## MENSTRUATION & THE ENVIRONMENT



**Wen.**

**ENVIRONMENSTRUAL**

# INTRODUCTION

**Menstruation is one of the most natural and healthy parts of life and many cultures celebrate the first period.**

But for many it is associated with pain and negativity, shrouded in secrecy and silence. Despite some advances, many products are still designed to reinforce the taboos surrounding our monthly bleed, and they enforce the misconception that periods smell, or even hide the very fact that we are menstruating at all. Menstrual blood is itself somehow seen as 'other'.

Menstrual taboos or period shaming has a massive impact on the products we use and how we dispose of them. Certain menstrual products can affect our health, end up in landfill, on our beaches, or pollute our oceans for decades <sup>(1), (2)</sup>.

Could changing social and cultural attitudes towards menstruation affect the way we experience our periods? Would it affect the choices we make about menstrual products and how we dispose of them, which could have a major impact on our health and environment?

Women's Environmental Network (WEN) has been campaigning on 'Environmenstrual' issues for over 30 years, providing information to girls, women and people who menstruate about the health and environmental impacts of menstrual products.

# MY PLASTIC PERIOD

**Plastic seems to be a predominant material used in mainstream menstrual products, from the wrappings to the plastic applicators.**

But despite the whiter than white appearance and individually wrapped pads and tampons, menstrual products are not sterile. They are not classified as medical devices in the UK, so much of the plastic packaging is unnecessary<sup>(3)</sup>.

It has been estimated that up to 90% of a menstrual pad and 6% of a tampon is plastic <sup>(4)</sup>, <sup>(5)</sup>. The rest of the pad is wood pulp and tampons are a mixture of cotton, rayon or a mix of both. Plastic tampon applicators are made from Polyethylene (PE) and Polypropylene (PP). Even the string attached to a tampon can be made from PE or pp <sup>(6)</sup>.

The thing about plastic is that it never goes away, it just breaks down into smaller and smaller pieces. The microplastics (defined as pieces smaller than 5 mm) we now find on our beaches and in the ocean arrive via two sources - those intentionally added to consumer products such as plastic microbeads used in cosmetics (primary microplastics) and those that originate from the breakdown of larger plastic items in the ocean or from the washing of synthetic fabrics (secondary plastics). PE and PP are two of the main plastics found in our oceans <sup>(7)</sup>.

Unfortunately, just swapping plastic for biodegradable plastic is not the solution. Bioplastics can also kill when they wind up in the ocean because their breakdown depends on a variety of factors, meanwhile they can end up in a marine creature's stomach <sup>(8)</sup>, <sup>(9)</sup>.





# FLUSHING AND DISPOSAL (FLUSHED BUT NOT FORGOTTEN)

**Disposal of single-use menstrual products is a major problem. In the UK, the use of tampons, pads and applicators generates 200,000 tonnes of waste per year <sup>(12)</sup>.**

The great majority of these products end up incinerated or in landfill, but up to 8.5% (18,050 pieces) of Sewage Related Debris (SRD), which includes menstrual products, finds its way onto Britain's beaches.

Despite numerous campaigns aimed at bagging and binning menstrual waste, the number of all types of menstrual products found on beaches has increased since 2010. Figures from the Marine Conservation Society reveal that on average, 4.8 pieces of menstrual waste are found per 100m of beach cleaned. For every 100m of beach that amounts to 4 pads, panty liners and backing strips, along with at least one used tampon and applicator <sup>(13)</sup>.

Menstrual products cause problems on their journey to our beaches as well. There are approximately 370,000 sewer blockages throughout the UK every year, of which up to 80% are caused by fats, oils and grease, wet wipes, sanitary waste and other unflushable items <sup>(14)</sup>.

Even products labelled biodegradable or flushable shouldn't be flushed down the loo as they may take many months to break down, blocking pipes and polluting the marine environment until they do so. Increasingly wet wipes are being used not only to wipe surfaces and skin but instead of toilet paper resulting in a 94% increase in the number of wet wipes found on UK beaches in 2016 <sup>(15)</sup>, <sup>(16)</sup>.

The message is, no matter what it says on the label, nothing should be flushed down the loo except the three Ps; pee, poo and paper and, of course, period blood if using a menstrual cup <sup>(15)</sup>.

**200 kg**



**The average person who menstruates throws away up to 200kg of menstrual products in a lifetime <sup>(10)</sup>.**

**5,3 kg CO<sub>2</sub>**



**A year's worth of a typical menstrual product leaves a carbon footprint equivalent of 5.3 kg CO<sub>2</sub> <sup>(11)</sup>.**

# FRAGRANCE

**Walk down any supermarket aisle for ‘feminine care’ and you will find hundreds of products aimed at freshening and deodorising our ‘lady gardens’.**

If vaginas can’t or don’t smell, then why do manufacturers add fragrance to menstrual pads, tampons, applicators, disposal bags, and wipes?

No other product used to soak blood has added fragrance, so why just menstrual products? How does this influence how girls, women and people who menstruate feel? How does it affect the way they think about themselves and their periods? Why does menstruation have to be doused in synthetic fragrance to make it ‘acceptable’? There are no such equivalent products for men.

These are not harmless additives, a quick Google search reveals hundreds of questions from women on forums, blogs and chat rooms about allergic reactions to tampons and pads. The findings are hardly surprising, as synthetic fragrance is one of the most common contact allergens and is linked to health problems such as thrush <sup>(17), (18)</sup>. Synthetic fragrances can be made up of a cocktail of 3,000 chemicals and can contain carcinogens, allergens, irritants and endocrine disrupting chemicals <sup>(19), (20)</sup>.

To add insult to injury, we are not allowed to know what is in these ‘fragrances’. Manufacturers claim that the fragrance comes from the ‘odour neutralizing technology’ or actipearls added to the inside of the pads. They are not, however, currently obliged to include a breakdown of ingredients. So, until they do, if you see the word ‘fragrance’ on a menstrual product, better to avoid it...your vagina will thank you!



## JUST A WAD OF COTTON?

**Cotton may be one of the world’s most profitable non-food growing crops, accounting for 90% of all the natural fibres used in the textile industry.**

But it is also a very toxic crop, occupying just 2.5% of global agricultural land area while using 7% of farming pesticides each year and 16% of all insecticides. That’s \$2 billion worth of pesticides, which poison up to 77 million cotton workers each year <sup>(21), (22)</sup>.

Cotton is a very thirsty crop, 20,000 litres of water is needed for enough cotton to make just one pair of jeans and a t-shirt. To put this into perspective this is enough drinking water for 7 people for 900 days <sup>(23)</sup>. So even if you switched to certified organic cotton products for just two of your periods you could save enough water for 1 person for 900 days. You could also conserve 72% of the energy needed to produce conventional cotton and reduce the water used by 91% <sup>(21)</sup>.

The purchase of certified organic cotton also supports the development of organic cotton production, where cotton farmers, the majority of whom are women in the cotton producing countries, can safely grow food crops between the cotton and reduce their families' exposure to pesticides.

In addition, non-organic tampons and pads may contain Genetically Modified (GM) cotton. Little research has been done on the possible health impacts for women, girls and people who menstruate of GM cotton and WEN questions whether non-GM and GM cotton can be separated in the supply chain. Current labelling means that manufacturers don't have to state whether their products contain GM material, although risk assessments were recommended by the EU <sup>(24)</sup>.

Sixty-six per cent of women in the EU expressed concern when told about the presence of man-made fibres in menstrual products <sup>(25)</sup>. The best option if you are concerned about these issues is to avoid any product which doesn't use certified organic cotton, or use reusable menstrual products.



## MENSTRUAL LEAVE

Menstrual leave can be a double-edged sword. After decades of campaigning for equality and proving the 'monthly sickness' does not make women less capable in the workplace and beyond, campaigning for a requirement for paid leave to menstruate could be seen as a contradiction, or worse still, leave an open gate for the discrimination of women on the basis of their biology <sup>(39)</sup>.

WEN has had a clause written in its staff and volunteer contract for menstrual leave since its inception. Menstrual leave means you do not have to take sick leave, as menstruation is not an illness. You can take time off if you have period related symptoms which make it hard to stay at work. Despite the clause, WEN's experience has been very few staff have taken the option of menstrual leave.

## THE REAL DIRT

The basic ingredient for menstrual pads is wood pulp, which begins life as a brown coloured product. Various 'purification' processes can be used to bleach it white. Measurable levels of dioxin have been found near paper pulping mills, where chlorine has been used to bleach the wood pulp. Dioxin is one of the most persistent and toxic chemicals, and can cause reproductive disorders, damage to the immune system and cancer <sup>(26)</sup>. There are no safe levels and it builds up in our fat tissue and in our environment.

In 1989 WEN campaigned to persuade producers to switch from chlorine bleaching to using chlorine dioxide or hydrogen peroxide which produce less dioxin. There are several less polluting methods which can be used to bleach wood pulp, but unless producers use a Totally Chlorine Free (TCF) process, harmful dioxins and other toxic chemicals can be produced through other processes. Levels of both chlorine and dioxin are still found in menstrual pads and tampons <sup>(27), (28), (29)</sup>. There is no regular independent testing of tampons or menstrual pads for the presence of dioxins or any other chemical contaminants.

# TOXIC SHOCK SYNDROME (TSS)

**Toxic Shock Syndrome is a rare but sometimes fatal disease.**

It happens when the body responds to toxins produced by a common bacteria that normally lives quite happily on our skin, in our noses and respiratory tracts. Certain circumstances, such as those created by a tampon, can cause an overgrowth, which sets off an uncontrolled inflammatory response <sup>(30)</sup>.

TSS has been linked to the use of super absorbent tampons but also those made from rayon, whether it's mixed with cotton or not. In the 1980s, the use of a highly absorbent tampon in the US led to an outbreak of TSS in young women. Since then, tampon manufacturers have changed the materials and absorbencies of tampons <sup>(31)</sup>.

According to Professor Philip Tierno, you can get menstrual or mTSS from synthetic tampons but not from 100% cotton tampons <sup>(32)</sup>, <sup>(33)</sup>. So TSS remains a concern in connection with using tampons given many mainstream tampons are made from a mixture of cotton and rayon <sup>(34)</sup>.

TSS is not a notifiable disease so it's hard to put a figure on the number of cases and deaths related to menstruation but women are still dying from mTSS. Sadly in 2013 a young British woman died from mTSS after using a tampon for the very first time <sup>(35)</sup>. Also, the issue of failing to diagnose mTSS quickly could have fatal consequences. Another British woman almost died in April 2018 when it took two days to diagnose mTSS <sup>(36)</sup>.

No cases of TSS have yet been linked to menstrual cups, however it is still possible <sup>(37)</sup>. Always opt for silicone cups and follow the manufacturers' advice on thorough regular cleaning <sup>(38)</sup> and replace any worn cup with a new one. If you use tampons, opt for 100% organic cotton and change them regularly, at least every 6 hours and use a menstrual pad at night <sup>(30)</sup>. There is an International Tampon Alert Day each year on the 8th of June.





# CHEMICALS IN MENSTRUAL PRODUCTS

Recent independent product testing results released by Women's Voices for the Earth (WVE) revealed undisclosed toxic chemicals in tampons including carbon disulfide, methylene chloride, toluene and xylene. The growing body of evidence of harmful chemicals in menstrual products reaffirms that we need to know more, not less, about the ingredients that are sold on the mainstream market.

Not all the ingredients used in the manufacturing or processing of pads and tampons are safe and few are included on the label.

If there is any independent testing of pads or tampons by manufacturers as suggested by the Industry Association Code of Conduct <sup>(40)</sup>, it is not made publicly available, although safety is assured <sup>(41)</sup>.

But, a number of chemical residues have been found in tampons and pads. It is unclear how they came to be present or what purpose they serve, but given there are no safe levels for chemicals like EDCs or carcinogens, it is of concern to girls, women and people who menstruate using these products regularly.

Levels of dioxin and chlorine have been detected presumably from the bleaching and processing of wood pulp and cotton <sup>(28), (42), (43)</sup>.

Stryene, a possible carcinogen and EDC was found in menstrual pads along with levels of chloroform, and chloroethane, both carcinogens <sup>(44)</sup>.

Two pesticide residues, glyphosate, a probable carcinogen and an EDC, and pyrethroids which are neurotoxins - presumably residues in the cotton, have both been found in menstrual pads and tampons <sup>(44),(45),(46),(47),(48)</sup>.

There are many other additives such as fragrance, lubricants, hydrogels, lotion, top sheets and odour neutralisers. We have no information about the safety or chemical content of these, only the word of the manufacturers. That's one big reason to choose safer alternative products.





# YOUR SYNTHETIC PERIOD

We may not immediately think of our vaginas as absorbent places, but our vaginas and vulvas can rapidly absorb chemicals without breaking them down, which happens when we swallow things.

In fact, vaginas are so good at absorbing that the possibility of delivering drugs vaginally has been considered <sup>(49)</sup>. This becomes a big concern when we consider how many toxic chemicals and substances have been found (mostly unlisted) in menstrual products, some intentionally added and some not. There is very little public information on what is in our menstrual products and even less transparency about additives. This may be because the menstrual products industry basically polices itself.

Unless you are using certified organic products, pads and tampons can contain a wide range of chemical absorbers, fillers, lubricants, and unintentional chemical and pesticide residues from the bleaching and manufacturing process.

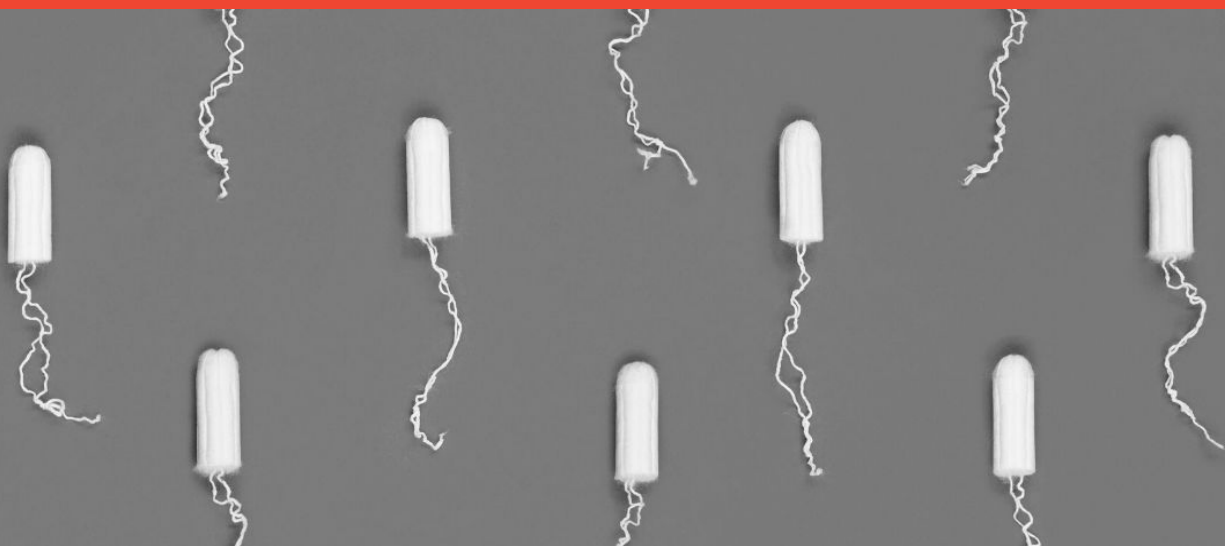
Endocrine disrupting chemicals (EDCs) <sup>(50)</sup>, pesticide residues <sup>(51)</sup>, plastics, possible and known carcinogens <sup>(43)</sup>, odour neutralisers, skin irritants, and a variety of other chemicals which can affect the liver, and kidneys, have all been detected in both pads and tampons <sup>(52)</sup>.

Although we may be exposed to very small levels of these toxic chemicals via our menstrual products, it's the daily, repeated, low level exposures that are a concern.

We can also be exposed via other menstrual products such as 'intimate' washes, douches, wipes and deodorisers. And while nearly all women, girls and people who menstruate use tampons and pads, black and Latina women are more likely to use douches, wipes, powders, and deodorizers, putting them at greater risk of potential chemical exposure <sup>(19), (49)</sup>.

The residues and leaching of additives from menstrual products can also come back to haunt us as they break down and further contaminate our environment and waterways. EDCs, in particular, are a worry, as they are linked not only to breast cancer, but also to many other reproductive diseases and disorders including infertility, and endometriosis.

Scientists have found ingredients from cosmetics and sun cream in menstrual blood <sup>(53)</sup>. It is hard to imagine that one of the most regularly used products by women, girls and people who menstruate may contain chemicals which could harm our health.



# A WORD ABOUT ANTI-MICROBIALS

The world of menstrual products has recently grown with innovations such as reusable menstrual pants and reusable applicators, but it may be that the rush to innovate has outstripped health and safety considerations. There are obviously big advantages in reducing menstrual waste by using reusable products, but unfortunately, some continue to perpetuate the same old menstrual taboos i.e. that periods smell by adding antimicrobials or antibacterials to menstrual products. WEN is questioning why these are necessary in these products? There are huge gaps in information about how these additives could affect the vagina or the good bacteria that make it the effective self-cleansing organ it is.

One such example is **nanosilver** – which is basically very, very tiny particles of silver – these tiny particles can pass through the skin, accumulate in our body causing unknown health impacts while also causing allergic reactions <sup>(54)</sup>.

Nanosilver is very toxic to fish and other creatures that live in our waterways and oceans and has been steadily building up in the environment since its addition to clothing. Studies have questioned the effectiveness of silver particles, showing that 60% of the silver is washed out after only 10 washes or that it provides no protection initially <sup>(55)</sup>.

Like the mainstream menstrual products, it can be impossible to find out what additive has been used, despite legislation stating it must be on the packaging.

Since 1 September 2013, articles which are sold with a biocidal claim (e.g. an antibacterial claim or an anti-odour claim) have to be labelled and information has to be given about which biocidal substance they contain, and which risks are connected with their use <sup>(56)</sup>.

Questions need to be asked about the unwarranted addition of antimicrobials or antibacterials to menstrual products including what kind of effect they have on healthy vaginal microbes. Until such time as regulation is in place to protect our vaginas, we should avoid unsafe additives and ask for them to be withdrawn.

# ENVIRONMENSTRUAL OPTIONS

## MENSTRUAL CUPS

are worn internally and simply collect your flow. Made from medical grade silicone, they can last 10 years! They can be worn for up to 8 hours. When the outer section has worn away they should be changed for a new one.

## REUSABLE PADS

are available in different shapes, sizes, materials, absorbencies – and colours! They can simply be soaked after use and washed with the rest of your laundry. Washable panty liners are also now available.

## REUSABLE PERIOD UNDERWEAR

recently new option. Pants that can be worn for up to 8 hours and hold as much or up to 4 tampons' worth of blood. Check for any added antimicrobials.

## SPONGES

these are natural sea sponges worn internally. Wen doesn't recommend them due to outstanding concerns about their potential environmental and health impact, including a link to TSS.

## ORGANIC COTTON DISPOSABLE PADS AND TAMPONS

choose certified organic cotton and plastic free tampons and pads that are biodegradable.





## WHAT YOU CAN DO:

- Consider using washable pads, a menstrual cup or reusable period underwear – you can prevent a lot of waste, and save a lot of money, even if you only use them at night or at home.
- Don't flush your disposable menstrual products down the toilet; instead bin them.
- Choose tampons and pads made from organic cotton and without plastic.
- Avoid fragranced or lubricated products – they are polluting and generate unnecessary exposure to potentially harmful synthetic chemicals.
- Demand the safest products for yourself and the environment by asking for a full list on menstrual products packs of the ingredients and materials used.
- If you are a group, organisation or business working in this area, then please [join the Environmenstrual Coalition](#)
- Take part in the [Environmenstrual Week of Action](#).
- Take part in a beach or river clean up (for example with [Thames21](#) and [Marine Conservation Society](#))
- Make your own menstrual pads. Download a pattern [here](#).
- Record your rhythm – developing familiarity with your cycle provides a useful indicator of your health and wellbeing, and a greater awareness of your body.
- Support WEN, [become a member](#) and get in touch on [Twitter @WEN\\_UK](#) and [Instagram](#).

# GLOSSARY

## BIODEGRADABLE PLASTIC (BIOPLASTIC)

Bioplastics are not just one single type of material but a whole family with different properties and applications. They can be biobased, biodegradable or a mixture of both. Biobased means the material is derived from biomass (plants) for example corn, cellulose or sugarcane. Biobased plastic does not mean biodegradable unless otherwise stated <sup>(57)</sup>.

## ENDOCRINE DISRUPTING CHEMICALS

Endocrine Disrupting Chemicals (EDCs) also known as Hormone Disrupting Chemicals or Xenoestrogens can interfere with our natural hormones. Our endocrine system controls all aspects of life through sending messages around our body via hormones which are our bodies chemical messengers. EDCs can adversely affect everything from reproduction to foetal development, and are linked with infertility, cancer, obesity, asthma and allergies <sup>(58)</sup>.

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