

FAQ

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Usually harmless: potential risks of period products

“Tampons or period panties? Which period product is best suited for me?” This is a question that many people who get their period have asked themselves at least once in their life. Given the different materials and functions available, there is an immense range when it comes to period products. But what about undesired ingredients in the various period products? Below, the German Federal Institute for Risk Assessment (BfR) has collected and answered the most frequently asked questions about potential health risks of period products.

What are period products?

For many people who get their period, period products (feminine hygiene products) such as tampons or pads are common items typically used once a month. With period products, women and girls can capture their menstrual blood. Over the past few years, reusable products such as menstrual cups or washable fabric pads as well as period panties have become popular alternatives to tampons and pads.

For all feminine hygiene products, but especially for those which are used intravaginally, it is important that they get changed regularly and with clean hands.

What is toxic shock syndrome?

Toxic shock syndrome (TSS) is a very rare, sudden-onset illness associated, among other things, with using tampons, menstrual cups or menstrual sponges (menstrual TSS, mTSS), although other causes are also possible. Certain bacteria (usually *Staphylococcus aureus*) produce poisonous substances which can lead to an overactivation of the immune system. Typical symptoms include fever, a drop in blood pressure, and a skin rash as well as headache, dizziness, and nausea. The risk of mTSS occurrence can be minimised through proper hygiene (thorough handwashing and thorough cleaning of reusable products) as well as by regularly changing inserted period products.

Is there cause for concern due to heavy metals in tampons?

A 2024 American [study](#) by Shearston et al. examined 30 tampons from different manufacturers and product lines. Four of these samples were purchased in the EU and Great Britain. Overall, 16 metals were identified in the trace range (ppb-range, parts per billion range), including arsenic, lead, and cadmium.

Even assuming 100 % release of the heavy metals and 100 % intake thereof into the body via the mucous membranes – although this is an unrealistic worst-case scenario – the impact would be negligible in comparison to background exposure levels (from foods, drinking water, household dust, traffic, industry, etc.).

Despite the fact that the intake via this route is negligible compared to overall intake through other sources, heavy metal levels should be lowered as much as possible through responsible selection of raw materials and good manufacturing practice. The ALARA principle (as low as reasonably achievable) applies when it comes to lead. In the BfR opinion, health impairments due to heavy metals stemming from tampon use are not to be expected.

Can tampons contain pesticide residues?

Because tampons consist mostly of cotton, the possibility of pesticide residues cannot be excluded. In 2015 and 2016, small amounts of pesticide residues were measured in different period products made of cotton. The BfR conducted its own assessment of these findings and came to the conclusion that health impairments are not to be expected from the measured levels. This risk assessment was conducted under worst case conditions, meaning under the assumption that 100 % of the substance released by the tampons was absorbed by the human body. You can find further information on this topic in the [communication](#) published in 2019.

The rayon staple and cotton used in the manufacturing of tampons ought usually to comply with the [purity requirements of the European Pharmacopoeia for non-sterile sanitary cotton made from cotton and viscose](#). These requirements mandate that pesticide residues be reduced to a technically unavoidable minimum level.

What are menstrual cups?

Menstrual cups are often used as an alternative to tampons. They can be washed and are therefore reusable. They come in different sizes and models, thereby offering variety for girls and women who get their period. Most menstrual cups are made of medical-grade silicone. However, other materials, such as thermoplastic elastomers or natural rubber, may also be used. Depending on the material, different residues may be present in the menstrual cups. There is limited data on the potential health risks posed by residue in menstrual cups. However, initial data gathered by consumer protection authorities do not suggest that health impairments are to be expected.

Whether or not a menstrual cup is suitable also depends on factors such as difficulty with insertion or comfort during use.

Are natural sponges suitable as period products from a health perspective?

Natural sponges are made from certain ocean sponges and can also be used as menstrual sponges. The BfR has not yet conducted a health risk assessment for menstrual sponges. However, there are concerns regarding exposure to bacteria, mould, and residue, e.g. from clams.

How does the BfR assess the use of biocides in period panties?

Period panties are reusable multi-layered panties which absorb period blood. When processing the textiles used, some manufacturers use biocides such as silver chloride in order to minimise bacterial growth and combat unpleasant odours. Generally, biocides are subject to the European Biocidal Products Regulation (EU) No 528/2012. Biocidal active substances must first be approved before they are allowed to be used in period panties. Old substances (those used prior to May 2000, before there was an approval process), however, are only gradually being evaluated. As long as these approval processes are still ongoing, these old substances are permitted under transitional provisions and can be used in period panties. However, manufacturers are still required to provide a secure and effective product if using these substances as long as an approval decision is pending. Regardless of whether the active substances have been approved or are still classified as old substances undergoing the approval process, certain conditions mandate labelling and information provision for menstrual underwear containing biocides. This includes, for example, cases in which biocidal effects such as “antimicrobial” or “odour-reducing” are claimed.

Depending on their use and concentration, biocidal substances can have health effects. These include, for example, allergic reactions or disturbances of the skin flora. As data is currently limited, it is not possible to provide specific recommendations. In case of concerns regarding the effects of biocidal substances, other period products may be considered until the approval process is complete.

How should period panties be washed?

After rinsing out menstrual blood by hand, many manufacturers recommend washing the panties in the washing machine at between 30 and 40 °C. However, these temperatures are not high enough to kill all bacteria. Panties should therefore be washed at 60 °C, even if it harms the material. There are also some manufacturers who state that their period panties can be washed at 60 °C.

What is the legal classification of period products?

There is no approval requirement for period products in Germany. Period products are a consumer product pursuant to the German Product Safety Law (Produktsicherheitsgesetz – ProdSG). Additionally, period products are commodities pursuant to Section 2 (6)(6) of the German Food, Commodity, and Feed Legislation (Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch, LFGB). This covers products intended to come into contact with the human body for prolonged periods of time, rather than only briefly. Legally, they may not be manufactured or treated in such a way that intended or expected use might cause health impairments.

It is incumbent upon the manufacturer or the party introducing the product to the market to ensure that the legal requirements are met. Market supervision authorities of the Federal States (‘Laender’) are responsible for sample-testing, which is coordinated by the German Federal Office of Consumer Protection and Food Safety (BVL).

Further information about period products on the BfR website

Period panties: Usually safe?

https://mobil.bfr.bund.de/cm/429/11_period_panties_en.pdf

Glyphosate in tampons? No indication of residues of any health significance

<https://mobil.bfr.bund.de/cm/349/glyphosate-in-tampons-no-indication-of-residues-of-any-health-significance.pdf>

About the BfR

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. The BfR advises the Federal Government and the States ('Laender') on questions of food, chemicals and product safety. The BfR conducts independent research on topics that are closely linked to its assessment tasks.

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