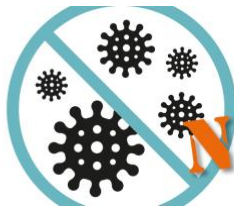


99% REDUCTION OF  
VIRUSES IN 2 HOURS

ISO18184:2019, ATCC VR-1679 (H3N2)



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## **Viruses, washing and ViralOff<sup>®</sup> - survey on how consumers have changed behavior and what we must do about it**

**A survey by us shows that 3 out of 4 people say they wash more now due to concerns of viruses. Washing takes time and is inconvenient, but more importantly it puts a huge strain on the environment. Can we change that?**

We wanted to explore how people wash, and think about washing in relation to the pandemic, so we surveyed 625 Americans\* to see what we could learn.

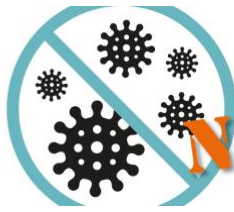
In summary, based on these respondents, we see

- Covid19 has changed washing behaviors significantly,
- It puts even more pressure on an already problematic industry to act
- Consumer demand seems nothing short of enormous
- Consumers are quite willing to change behaviors when aware of the problems and the solutions available with ViralOff and Polygiene stays fresh treatments

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September 15, 2020

Hi!

As you know, ViralOff is a treatment that **protects the garments, not the wearer**. A treated garment will so to say self-clean over time. This is a good thing in many ways. People are aware of germs and may be unwilling to try on clothes or buy clothes that other people have at some point tried on ever so briefly. The US Center for Disease Control recommend not shaking clothes when washing because viruses might fly around. Washing out of concern for viruses takes time and is inconvenient, but more importantly it **puts a huge strain on the environment**. Washing a load every other day means about 1/10 of the CO2 emissions from the average car.

We wanted to explore **how people wash, and think about washing** in relation to the pandemic, and if they can be enticed to wash less if viruses are not a concern on the clothes. So, we surveyed 625 Americans\* to see what we could learn.

**3 out of 4 people say they wash more now** due to concerns of viruses. Of those, over 30% say they wash a lot or a great deal more. In free format answers there were a surprising number of people who wrote that they wash clothes directly if they have been worn out in public.

This is a serious and important finding. Simple calculations on the effect is that washing a load every other day gives about the same CO2 emissions as 1/10 of an average car over the same period. Even before Covid the average washing machine in the US did seven loads a week, the 20% increase would be roughly the equivalent of over 3,5 million more cars.\*\*

In comparison, at the start of 2020 the entire US fleet of electric cars was around 1.5 million.

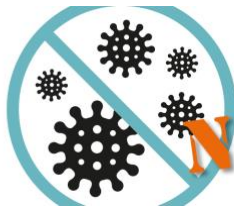
While people still argue over CO2 and the greenhouse effect, we just leave it right there – think about the magnitudes involved here. Those magnitudes go beyond CO2.

Washing also expends energy and consumes water. They also add many

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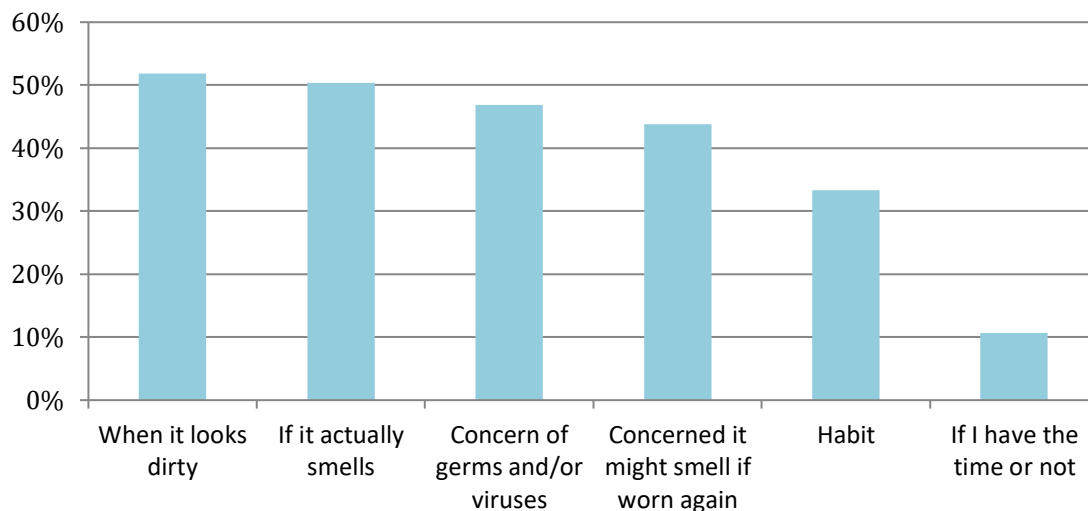
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chemicals to the wastewater. All of these factors should be taken seriously. Water shortages were a real problem in many areas even before Covid. There is heavy pressure from not-so-good chemicals and microplastics. Multiply these effects, and it is even worse.

## What are typical reasons for you to decide to wash a piece of clothing?

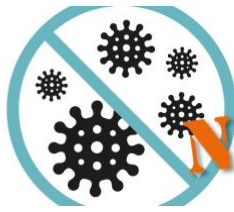


We asked people why they wash clothes – they could check several so the sums are not 100% - and you can see how concern over germs and viruses really plays in. Washing because clothes look dirty or smell cannot be considered frivolous. (Note that ViralOff also holds bacteria at bay, so those would not smell unless it was for external reasons, that is, protected from body odor.) The third largest cause now seems to be concern for viruses and germs.

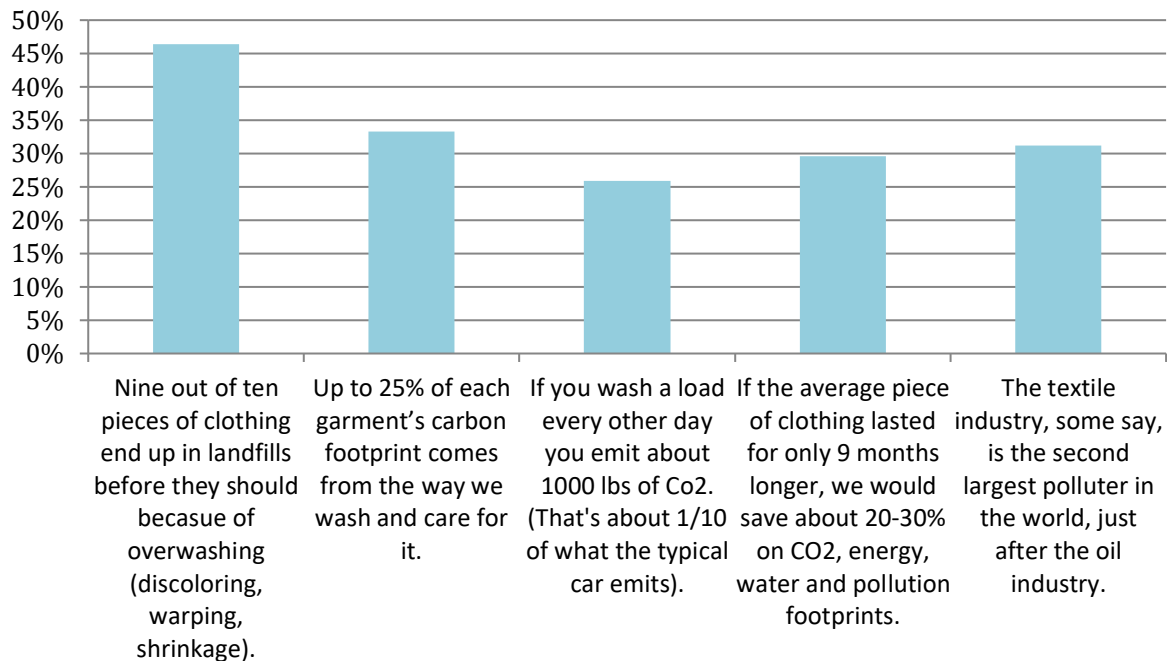
### But, is this irreversible?

No. But there are two hurdles that must be overcome. The first is a **lack of awareness** among the consumers. On average only at most one in three had heard the good arguments that exist for wearing more and washing less. Given the sizeable impact washing, wearing and discarding of textile has on the environment, this has to be improved.

One can certainly not blame consumers for washing rigorously during these times, since many have never been told about the downsides.



There are good reasons for not washing clothes as often as we do today. Which ones of these did you know?



The **second** hurdle to overcome is of course to get the solution to the consumers. Many seemed unaware that ViralOff existed (we didn't even tell them it did, but they asked in the comments where one could find this product!). Only six months into the market, this is of course expected.

We see clearly that many people welcome the prospect of not having to wash due to concerns over viruses. In fact, most (**approx 70%**) say they probably or definitely would.

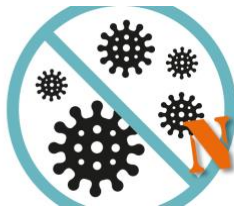
We then asked the people who would definitely or probably wash less how many washes they would skip given their clothes were treated to not smell and be free from bacteria (we did not explicitly talk viruses here).

Around 30% picked the alternative "I would only wash when clothes were visibly dirty." 18% claimed they would skip as much as 4 washes out of 5. Another 29% picked "I would skip every other wash".

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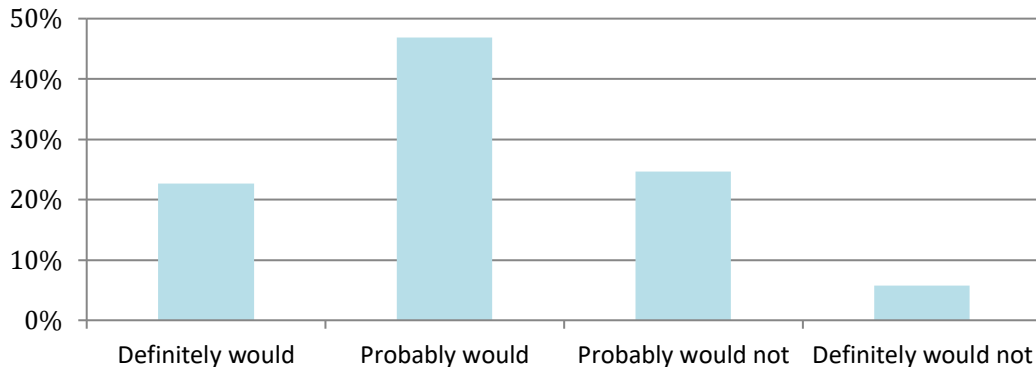


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If your clothes were treated so they would not smell (and stay 99% free from bacteria), would you then wash less?



While we are extremely happy with this response – this would mean we could not only reverse the increased washing from the pandemic, but have more positive impact on sustainability than perhaps any other consumer product of the last decades – we think it might be a bit overstated. Habits are hard to break, and they take time.

But given that our life cycle analysis show that a ViralOff treated garment should be washed about 1/3 less than an untreated garment – skipping 3 washes out of 10 – to be better than an untreated article, we see that consumers are quite positive to starting with the goal of “wash only half as much”. And these calculations don’t even factor in the soft factors of comfort, time, convenience and more likelihood to be used second hand. With odor controlling Polygiene stays fresh treatment, everything over one skipped wash out of ten is a net gain.

### **But will they pay?**

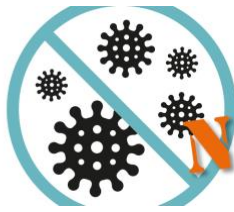
No business runs without a business model. ViralOff and our biostatic treatments is an extra and must add value to the consumer so they either buy at a higher price or choose the product over competitors. Margin equals resources to tell more people and get higher awareness faster.

On a face mask, the average respondent said they would pay 40% more for a facemask treated with ViralOff compared to an untreated mask. Interestingly this was fairly constant, regardless of whether the subject used disposable

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masks (+43%) or multiuse masks (34%-45% depending on price points).

What was surprising to us was that the perceived value on clothes was almost on level with that on face masks!

On average, Clothes had an 38% increase in what they would be willing to pay for the function. The people who said they would definitely wash less valued it higher, at +45%. But even the ones who said they would definitely not wash less rated it as worth +38% higher. This indicated they value the function but would still wash them. This is good news in terms of demand, but presents a challenge for sustainability as it really is overkill to was treated garments just as often as untreated ones. Thankfully, this was only about one fourth of the respondents.

In summary, based on these respondents, we see

- Covid19 has changed washing behaviors significantly,
- It puts even more pressure on an already problematic industry to act
- Consumer demand seems nothing short of enormous
- Consumers are quite willing to change behaviors when aware of the problems and the solutions available with ViralOff and Polygiene stays fresh treatments

**Let's go out there and make the best of this, in every good meaning of the word.**

Thanks.

Mats Georgson, for the team at Polygiene

\* Online panel, across the US, aged 18-100, balanced for age and gender. Data collected September 7-9 2020.

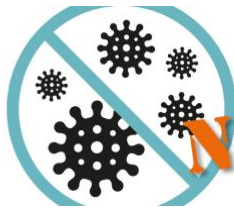
\*\*North America has an estimate of around 130 million washing machines running 7 loads a week each in 2020.

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<https://thenewfashioninitiative.org/>

*International Energy Agency (IEA), Clean Energy Ministerial, and Electric Vehicles Initiative (EVI) (June 2020). "Global EV Outlook 2020: Enter the decade of electric drive?" (PDF).*