

# COVID-19



## Laundering work wear (and other cloth products): Confronting COVID-19

Every “must-do” list of measures to combat the COVID-19 virus includes hygiene and cleaning. Hands and commonly touched surfaces receive the most attention. Rightly so. But what about the clothes most workers wear to work or perhaps more importantly, wear home from work?

How often should they be cleaned and with what? After all, unless you are employed in health care or cleaning related occupations, most workers don't wear disposable gowns. And even still, they are wearing gowns, with other required personal protective equipment, usually only when interacting with suspected, presumed or confirmed COVID-19 patients.

**BOTTOM LINE:** All workers should launder their work wear daily. Laundry disinfectants can help, although according to Public Health Ontario may not be necessary. As an added precaution, workers should change out of their work clothes and launder as soon as they can upon returning home. If work wear cannot be cleaned right away, store them away (i.e., in a plastic bag) until they can be laundered.

Similar precautions for other cloth products apply. See below.



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## RESEARCH ASSESSMENTS

Support for this advice ironically comes from research conducted on hospital gowns following the 2003 outbreak of a different coronavirus, namely SARS.<sup>1</sup> As with other research into other coronavirus stability on surfaces and effectiveness of disinfectants, the conclusions of the hospital gown study help us understand how long COVID-19 might last on clothing and how to best clean it. The comparison between SARS and the COVID-19 virus can be made because the viral structures appear chemically and structurally very similar.

Published in *Clinical Infectious Diseases* in 2005, the research conducted testing on three different types of gowns — cotton, paper and another disposable gown made of a polypropylene material and coated with a polyethylene film. They found the cotton and paper gowns absorbed the solutions and allowed the solutions to dry, which helped inactivate the virus. The disposable gown took much longer because the solution stayed on the surface

in droplet form. The virus survived on the cotton and paper gown for a maximum of 24 hours, while the virus remained active on the non-absorbent disposable gown double the time, up to two days.

The study also showed three common liquid detergents/disinfectants were equally effective against the SARS virus. All demonstrated at minimum, one thousand-fold reduction in the initial virus concentration within five minutes after soaking in the detergent/disinfectant solution. All three cleaning compounds (dilute laundry detergent, 1% disinfectant, and dilute bleach) tested were shown to be effective for removing the SARS virus.

The researchers concluded: “Absorbent material, such as cotton, is preferred to non-absorptive material for personal protective clothing for routine patient care where risk of large spillage is unlikely. The [SARS virus] is easily inactivated by commonly used disinfectants.” While their findings help inform the choice of hospital gowns, clearly it helps our understanding of the importance of laundered work wear.



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## OTHER ASSESSMENTS AND PRACTICES

Public Health Ontario has indicated **following a regular wash**, no further sanitation is required.<sup>2</sup> The water in the machine dilutes viral deposits and the detergent disrupts the virus' outer structure. Once the viral structure is disrupted, **the virus is no longer infectious**, they say.

<sup>1</sup> Lai MYY, Cheng PKC, Lim WWL. 2005. Survival of severe acute respiratory syndrome coronavirus. *Clinical Infectious Diseases* 41(7): e67-71. <https://doi.org/10.1086/433186> (Available free of charge.)

<sup>2</sup> (<https://www.publichealthontario.ca/-/media/documents/ncov/factsheet-covid-19-guide-isolation-caregivers.pdf?la=en>)



Public Health Ontario does add however, if laundry is known to be contaminated with the virus (i.e., the clothing/bedding of a COVID-19 patient) then the **contaminated laundry** needs to be handled with single-use disposable gloves or re-useable gloves properly cleaned and disinfected immediately afterward (or if gloves are not available, then [hands must be washed](#) well following). Also contaminated laundry should be handled gently, so as not to be jostled or shaken.

One of the more recent products added on the U.S. EPA SARS-CoV-2 (more popularly known as the COVID-19 virus) list of approved cleaning products is **Lysol Laundry Sanitizer**. The list is available [here](#). This product, when used according to manufacturer's instructions, appears to be adequate to inactivate the COVID-19 virus. No products intended for similar use were found on the EPA or Canadian lists (as of March 26, 2020). The safety data sheet is available [here](#).

In **hospital laundry facilities**, heat is primarily used for disinfection. Either heating to 65°C for 10 minutes or 71°C for three minutes is adequate to disinfect all reusable fabric materials. Materials which cannot be treated with heat, are washed at the maximum temperatures recommended for the materials and then chemically disinfected with bleach. Bleach is added after the wash (because any dirt on the items could inactivate the bleach in the low concentrations used) and just before the last rinse. The last rinse removes any bleach odour. In general, the rinse contains 5 ml (1 teaspoon) bleach in 1 litre of water, using approximately 125 ml for a regular home machine. The rinse contact time is five minutes or more.

Another way to disinfect work wear and cloth products involves **ironing**. The temperature of a hot iron can exceed the boiling point of water and reaches 180-229°C, destroying all germs, including viruses. If you go this route however, be sure to **wash your hands thoroughly and immediately** following ironing. Also do not touch your face and hair while ironing.

Finally, for **non-washable soft surfaces**, such as carpets and furniture, a disinfectant spray may be applied.

## FURTHER QUESTIONS OR CONCERNS?

Review our COVID 19 resources at [www.whsc.on.ca](http://www.whsc.on.ca).

### Need more help?

Contact your worker member of the joint health and safety committee, worker representative, union representative if you have one, or Workers Health & Safety Centre at [contactus@whsc.on.ca](mailto:contactus@whsc.on.ca) or 1-888-869-7950.

## TO LEARN MORE



### Check out other related WHSC docs:

- ◆ Cleaners and Janitors: Confronting COVID-19
- ◆ Cleaning and Disinfecting: Confronting COVID-19
- ◆ Evaluating Disinfectants for use against the COVID-19 Virus
- ◆ Gloves at Work: Safeguards for Workers Confronting COVID-19
- ◆ Respiratory and Eye Protection at Work: Safeguards for Workers Confronting COVID-19