

Surface disinfection with chlorine (bleach)



Fact sheet for operators of facilities such as child care centres and residential facilities

Disinfection is the process of destroying disease-causing microorganisms on surfaces and inanimate objects. Disinfection is only effective if the following steps are followed:

- Thoroughly clean the surface and allow to dry
- Choose the appropriate bleach recipe from the chart below
- Prepare the bleach solution fresh daily
- When preparing the solution, add the bleach to the water
- Apply enough bleach solution so all surfaces stay wet for the required contact time

Note: For recipes with greater than 200 ppm chlorine, rinse surface with potable water after the contact time has elapsed.

The bleach recipe uses unscented bleach that contains 5.25% sodium hypochlorite (50,000 parts per million available chlorine). Recipe volumes have been rounded to the nearest measurement. To determine another recipe, use the chlorine dilution calculator provided by Public Health Ontario ([Chlorine Dilution Calculator](#)).

When to clean and disinfect	Concentration	Recipe	Contact time	Surfaces to clean and disinfect
Everyday use and no rinse required	200 ppm	Mix 1 teaspoon (5 millilitres) of bleach into 4 cups (1 litre) of water	Air dry	Food contact surfaces
Everyday use	500 ppm	Mix 2 teaspoons (10 millilitres) of bleach into 4 cups (1 litre) of water	1 minute	Toys Diaper change tables Water play tables Animal cages
Minor blood or body fluids (drops)	500 ppm	Mix 2 teaspoons (10 millilitres) of bleach into 4 cups (1 litre) of water	2 minutes	Bathroom surfaces Chairs Counter tops
Everyday use	1000 ppm	Mix 4 teaspoons (20 millilitres) of bleach into 4 cups (1 litre) of water	1 minute	Door handles Light switches Sink faucet handles Tables Telephones
1. Major blood or body fluids 2. Confirmed bacterial, viral or yeast infection of the following pathogens: <ul style="list-style-type: none"> • Clostridium difficile • Mycobacteria tuberculosis • Norovirus • Hepatitis A virus • Rotavirus • Coxsackie Virus (Hand, Foot and Mouth Disease) • Rhinovirus (Common Cold) • Candida 	1000 ppm	Mix 4 teaspoons (20 millilitres) of bleach into 4 cups (1 litre) of water	30 minutes	Tables Telephones
	5000 ppm	Mix 20 teaspoons (100 millilitres) of bleach into 4 cups (1 litre) of water	10 minutes	Toilet seat and flush handles Wall around toilet Vinyl mattress covers

References

O. Reg. 493/17: Food Premises. Available online at <https://www.ontario.ca/laws/regulation/170493>

Grenier, D., & Ludac, D. (2008). Well Beings, A Guide to Health in Child Care. Ottawa: Canadian Paediatric Society.

PIDAC. (2012). Best Practices for Environmental Cleaning for Infection Prevention and Control. Available online at: www.publichealthontario.ca/en/eRepository/Best_Practices_Environmental_Cleaning_2012.pdf

PIDAC. (2018). Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, 3rd Edition. Available online at: <https://www.publichealthontario.ca/-/media/documents/B/2018/bp-environmental-cleaning.pdf>

Rutala, W., Weber, D., & HICPAC. (2008, Updated May 2019). Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008. Retrieved from CDC: <https://www.cdc.gov/infectioncontrol/pdf/guidelines/disinfection-guidelines-H.pdf>

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