



**Communicable Disease Branch:  
Bleach concentrations for suspect and confirmed  
norovirus outbreaks**

**Background**

The concentration of sodium hypochlorite (the active ingredient in bleach) has increased from 5.25-6.00% to 8.25%. While some stores may still carry the lower concentration of bleach, many companies plan to discontinue manufacturing the less concentrated bleach. Due to this concentration change, the dilutions of bleach have changed in order to achieve the same parts per million (ppm) that are effective at killing pathogens. It is important that the appropriate concentrations of bleach are used, because higher concentrations can be corrosive and irritating to the respiratory tract, skin and eyes; lower concentrations are not effective at killing pathogens.

Bleach is used at varying dilutions for sanitizing, routine disinfection, and norovirus disinfection. This document provides guidelines for using bleach during confirmed or suspect norovirus outbreaks. Refer to the appropriate regulations or guidance documents for additional information about the concentration needed for other uses

For bleach to be effective, it must be applied at the appropriate dilution to a clean surface. The surface must stay wet for the entire contact time.

**Proper Bleach Use with 8.25% sodium hypochlorite**

Purpose	Final ppm	Dilution	Contact time*	Follow up procedure
Norovirus Disinfecting (examples: Norovirus outbreak or gastrointestinal outbreak of unknown etiology)	5000	1 cup bleach: 1 gallon water**	1 minute	Air dry or dry with paper towel. Food contact surfaces must be rinsed and sanitized.

\*for the contact time, surface area must remain wet for entire time in order to be effective

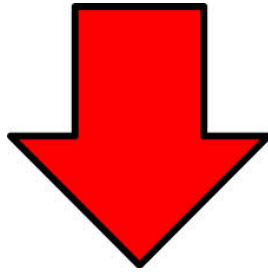
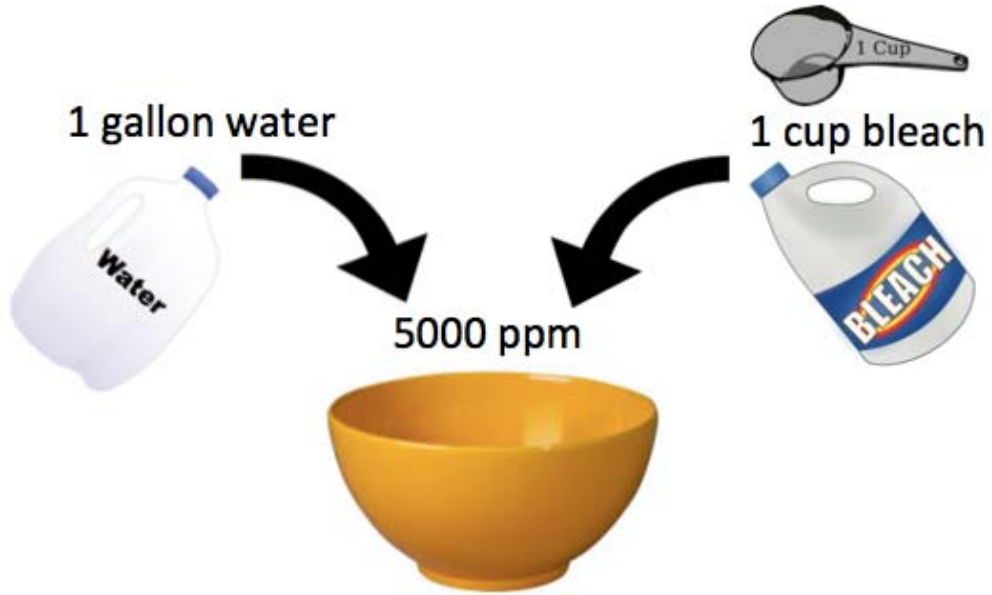
\*\*1 gallon equals 16 cups

**Other Disinfectants for Norovirus**

There are numerous commercially available products that EPA has registered as appropriate for disinfection for norovirus:

[http://www2.epa.gov/sites/production/files/2015-10/documents/list\\_g\\_norovirus.pdf](http://www2.epa.gov/sites/production/files/2015-10/documents/list_g_norovirus.pdf)

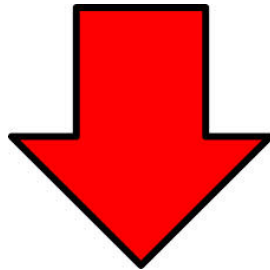
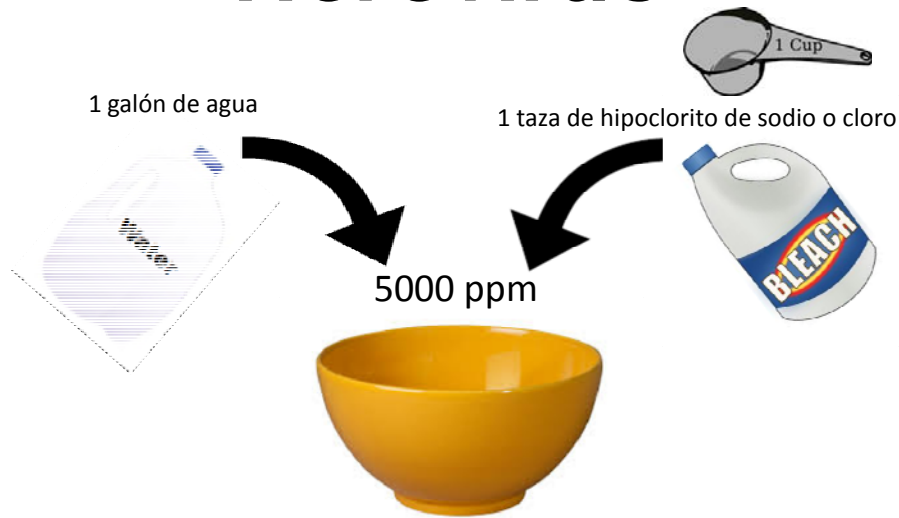
# NOROVIRUS DISINFECTING



1 minute contact time



# Cómo desinfectar superficies para eliminar el *Norovirus*



Dejar actuar el producto durante un minuto



## References

Barker, J., I.B. Vipond, and S.F. Bloomfield. "Effects of Cleaning and Disinfection in Reducing the Spread of Norovirus Contamination via Environmental Surfaces." *Journal of Hospital Infection* 58.1 (2004): 42-49. Web. 18 Dec. 2014.

<[http://www.processcleaningsolutions.com/pdf/3\\_norovirus-barker.pdf](http://www.processcleaningsolutions.com/pdf/3_norovirus-barker.pdf)>.

"Bleach Solutions." *Oregon Health Authority*. N.p., May 2014. Web. 18 Dec. 2014.

<<https://public.health.oregon.gov/HealthyPeopleFamilies/Babies/HealthChildcare/Pages/bleach.aspx>>.

"Child Care Regulation Interpretation 13-01." *City and County of Denver*. State of Colorado, 4 Sept. 2013. Web. 18 Dec. 2014.

<<https://www.denvergov.org/Portals/771/documents/Guidelines%20for%20Sanitizers%20&%20Disinfectants.pdf>>.

"Service Bulletins." *Clorox*. N.p., 4 Dec. 2013. Web. 18 Dec. 2014.

<[https://www.clorox.com/pdf/5813-100\\_service-bulletins.pdf](https://www.clorox.com/pdf/5813-100_service-bulletins.pdf)>.