

SOP for Bleach Disinfection

Effectiveness:

Bleach, a sodium hypochlorite solution (NaOCl), is a broad-spectrum disinfectant that is an effective disinfectant for enveloped viruses (e.g. HIV, HBV, HSV), vegetative bacteria (e.g. *Pseudomonas*, *Staphylococcus*, and *Salmonella*), fungi (e.g. *Candida*), mycobacterium (e.g. *M. tuberculosis* and *M. bovis*), and non-enveloped viruses (e.g. Adenovirus and Parvovirus).

Concentration:

The appropriate concentration of sodium hypochlorite for disinfecting liquid BL1 and BL2 waste, e.g. supernatants from cell culture, is 5000 ppm, approximately 0.5%. Household bleach is 5.2 - 6.1 % sodium hypochlorite, therefore a 1:10 (v/v) dilution of bleach to liquid biological waste is appropriate.

Contact time:

An appropriate contact time of sodium hypochlorite with liquid waste is 20 minutes before drain disposal. After 20 minutes of contact, disinfected liquid waste is poured down the sink and the drain is flushed with water.

Stability and Storage:

Bleach should be stored between 50 and 70°F. According to Clorox, undiluted household bleach has a shelf life of six months to one year from the date of manufacture, after which bleach degrades at a rate of 20% each year until totally degraded to salt and water, and a 1:10 bleach solution has a shelf life of 24 hours.

Austin A-1 Bleach EPA registration number is 1672-20004. The Massachusetts registration number is 1989375940.