

## Disinfecting HEPA Filters

# Recommendations for The Use of Sodium Hypochlorite to Disinfect HEPA Filters

---

### Centers for Disease Control and Prevention

Laboratory studies indicate that re-aerosolization of viable mycobacteria from filter material (HEPA filters and N95 disposable respirator filter media) is not probable under normal conditions (414--416). Although these studies indicate that *M. tuberculosis* becoming an airborne hazard is not probable after it is removed by a HEPA filter (or other high efficiency filter material), the risks associated with handling loaded HEPA filters in ventilation systems under field-use conditions have not been evaluated. Therefore, persons performing maintenance and replacing filters on any ventilation system that is probably contaminated with *M. tuberculosis* should wear a respirator (see Respiratory Protection) in addition to eye protection and gloves. **When feasible, HEPA filters can be disinfected in 10% bleach solution or other appropriate mycobacteriacide before removal** (417). In addition, filter housing and ducts leading to the housing should be labeled clearly with the words "TB Contaminated Air" or other similar warnings. Disposal of filters and other potentially contaminated materials should be in accordance with applicable local or state regulations.

*CDC, Installing, Maintaining, and Monitoring HEPA Filters*

[http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm?s\\_cid=rr5417a1\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm?s_cid=rr5417a1_e)

### National Institute for Occupational Safety and Health (NIOSH)

Recent laboratory studies have indicated that re-aerosolization of bioaerosols from HEPA and N95 respirator filter material is unlikely under normal conditions [Reponen et al. 1999; Gwangpyo et al. 1998]. These studies concluded that biological aerosols are not likely to become an airborne infectious problem once removed by a HEPA filter (or other high-efficiency filter material); however, the risks associated with handling loaded filters in ventilation systems, under field-use conditions, need further study. Persons performing maintenance and filter replacement on any ventilation system that is likely to be contaminated with hazardous CBR agents should wear appropriate personal protective equipment (respirators, gloves, etc.) in accordance with Occupational Safety and Health Administration (OSHA) standards 29 Code of Federal Regulations (CFR) 1910.132 and 1910.134. For example, the Centers for Disease Control and Prevention (CDC) recommends NIOSH-approved 95% efficient non-oil mist environment (N95) respirators and gloves for a worker performing filter maintenance in a health care setting where the spread of tuberculosis is a concern.

Maintenance and filter change-out should be performed only when a system is shut down to avoid re-entrainment and system exposure. You should place old filters in sealed plastic bags upon removal. **Where feasible, particulate filters may be disinfected in a 10% bleach solution or other appropriate biocide before removal.** Not only should you shut down the HVAC system when you use disinfecting compounds but also you should ensure that the compounds are compatible with the HVAC system components they may contact. Decontaminating filters exposed to CBR agents requires knowledge of the type of agent, safety-related information concerning the decontaminating compounds, and proper hazardous waste disposal procedures. Your local hazardous materials (HAZMAT) teams and contractors should have expertise in these areas. *NIOSH Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks* <http://www.cdc.gov/niosh/docs/2003-136/2003-136d.html#operations>