

Protecting Your Health After a Wildfire: Cleaning Settled Dust

The Health Impacts of Settled Dust

During and after a wildfire, even after the sky clears, a hazardous mixture of particulate matter (PM), dust, and ash can infiltrate homes and other buildings.

Accumulated dust contains a mixture of particles and chemicals resulting from the combustion of natural vegetation and materials from the built environment that burned during the wildfire. If not properly removed, this dust can settle on surfaces, contaminate textiles like carpet and upholstered furniture, and even resuspend in the air, presenting a continued exposure risk for residents. The majority of household dust comes from the outside through windows, doors, vents, and on the soles of shoes. Therefore, in the aftermath of a wildfire, it is particularly important to take additional steps to remove settled dust.

EXPOSURE RISKS

The negative health effects from exposure to settled dust may include eye, nose, and throat irritation, exacerbation of asthma, eczema, chronic obstructive pulmonary disease, and cardiovascular disease, such as heart attacks and strokes. Dust is also an important route of exposure to toxins. Since settled dust is hard to clean up and can remain in environments for an extended period, it presents a long-term (chronic) exposure risk for people beyond the short-term (acute) risk posed in the immediate aftermath of a wildfire.

People are exposed to the pollutants left by a wildfire through three primary exposure routes: inhalation, ingestion, and skin exposure. Cleaning settled dust is particularly important to reduce **ingestion exposure**, which typically occurs from hand-to-mouth behavior, and **skin exposure**, which occurs when residents come into contact with settled PM, dust, and ash.

While there are several populations vulnerable to settled dust exposure, **children are a primary concern**, especially infants and toddlers. Children receive a relatively higher dosage of pollutants through settled dust because they:

- Have lower body weights than adults.
- Often play lower to the ground.
- Have frequent hand-to-mouth behavior.



Recommended Cleaning Equipment



Microfiber or Anti-Static Cloths, Mops, and Dusters

These products contain both positively- and negatively-charged fibers that attract and remove dust without the use of chemicals found in common dusting sprays. As an alternative, use a wet cloth or regular mop.



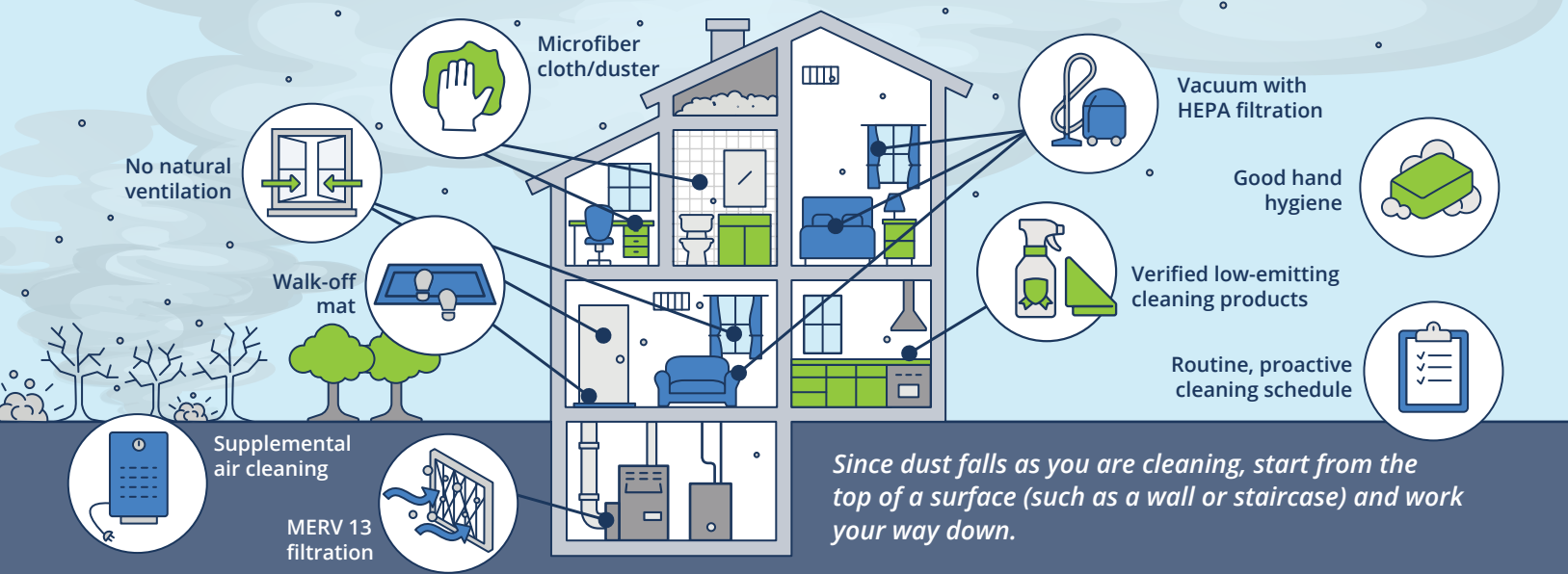
Vacuums with HEPA Filtration

These vacuums help remove smaller particles found in wildfire pollutants, such as PM_{2.5}. They also frequently come with a variety of attachments that can be used on hard surfaces, textiles, and in hard-to-reach places.



Personal Protective Equipment

Gloves and a face mask provide necessary protection from particles and chemicals while cleaning.



How can you effectively clean settled dust in your home?

1. Remove dust from surfaces.

- **Hard surfaces.** Use a microfiber cloth/duster or damp cloth on furniture, countertops, baseboards, fan blades, windowsills, light fixtures, blinds, and electronics. Remember to hand- or machine-wash all cloths in warm water after use.
- **Floors.** For hardwood, tile, or vinyl floors, first dust or use a HEPA vacuum, and then clean with a wet microfiber mop. Clean carpet and rugs with a HEPA vacuum and consider a deep cleaning with a hot water extraction system.
- **Upholstered furniture, bedding, and curtains.** If possible, use a HEPA vacuum attachment on mattresses, comforters, curtains, and upholstered furniture. Wash bedding weekly in hot water. If an item cannot be laundered, consider getting it dry-cleaned.

2. Limit the entry of additional contaminants.

- **Close windows and doors.** In the weeks after the event, avoid natural ventilation, such as opening a window to air out a room.
- **Walk off mats.** Place walk-off mats at doorways and remove shoes upon entrance. This will limit the entry of additional contaminants.
- **Source control.** Some cleaning products may introduce additional pollutants into the indoor environment, including volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). Only use cleaning

products that have been independently verified to be low-emitting by a third-party program, such as UL GREENGUARD or EPA's Safer Choice.

3. **Clean the air via filtration.** Unlike surface cleaning, air cleaning is a continuous process to remove airborne contaminants. If your home has a mechanical heating and air conditioning unit, contact a professional to confirm if it can support a higher-rated MERV filter. Supplement with a standalone air cleaner (either a commercially available air cleaner with HEPA filtration or a DIY air cleaner constructed from a box fan, MERV 13 filter, and duct tape).

For more information on using air filtration, see the related handout: [Protecting Your Health After a Wildfire: Cleaning Indoor Air](#).

4. **Establish a routine cleaning plan.** Since dust recirculates in the air, it can continuously deposit on surfaces. Set a routine, proactive schedule for cleaning. Do not wait until you see settled dust. Clean with greater frequency in the weeks and months following a wildfire.
5. **Practice good hand hygiene, especially after cleaning.** Frequent hand-washing can reduce ingestion of hazardous dust that can result from touching dust and then touching your face. While more common among children, even adults can lower exposure risks by regularly washing their hands.

