

## Portable Air Cleaners for Wildfire Smoke

Wildfire smoke is a complex mixture of air pollutants, including small particles that can cause irritation and inflammation when inhaled. Smoke can come into buildings through windows, doors, vents, air intakes, and other openings.



Most people spend up to 90% of their time indoors, where portable air cleaners can be used to reduce the impacts of wildfire smoke.

- Portable air cleaners plug into regular wall sockets and can be moved between rooms.
- Studies have tested indoor portable air cleaners on pollution from many different sources, including wildfire smoke. In most of these studies, portable air cleaners have reduced small particle concentrations by 40-80%.
- Use of portable air cleaners has been associated with better lung function, lower blood pressure, and reduced inflammation in children and adults.<sup>1</sup>



Most portable air cleaners use high efficiency HEPA filters to trap the very small particles in wildfire smoke.

- Some units use electrostatic precipitators to remove particles from the air. This process creates ozone gas, which can be a lung irritant. **People with respiratory conditions should only consider purchasing HEPA filtration units.**
- Both HEPA filters and electrostatic precipitators can only remove particles from the air, not gases. However, some units also have activated carbon filters that can reduce the gaseous pollutants in wildfire smoke.
- Ozone generators and negative ionizers cannot effectively remove smoke particles from the air.

<sup>1</sup> Barn PK, Elliott CT, Allen RW, Kosatsky T, Rideout K, Henderson SB (2016). Portable air cleaners should be at the forefront of the public health response to landscape fire smoke. *Environmental Health*. 15(1):116.



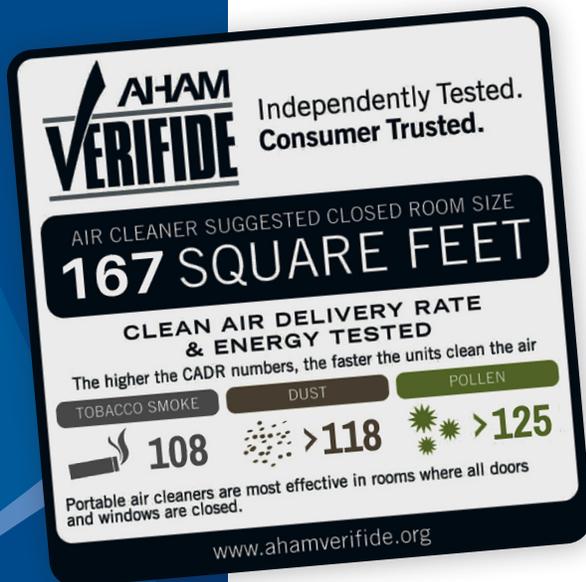
The people who can benefit most from portable air cleaners are those with asthma, chronic obstructive pulmonary disease (COPD), heart disease, pregnant people, infants and young children, and older adults.



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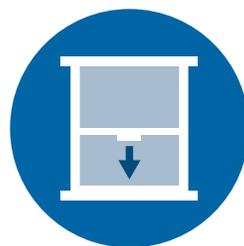
FOR MORE INFORMATION [bccdc.ca/wildfiresmoke](https://bccdc.ca/wildfiresmoke)

There are many kinds of portable air cleaners on the market, so it is important to do some research before making a purchase.



- Look for a unit certified by the [Association of Home Appliance Manufacturers \(AHAM\)](#), with a label similar to the one shown here.
- The AHAM label clearly indicates the square footage of the area that each unit can clean. Be sure to find one that is appropriate for your needs, and to use it where people spend most of their time.
- The AHAM label also indicates the clean air delivery rate (CADR) for particles of different sizes, including tobacco smoke, dust, and pollen. Tobacco smoke is most similar to wildfire smoke.
- Portable air cleaners sold in the State of California are subject to higher standards than those sold elsewhere. All units [certified by the California Air Resources Board <https://rb.gy/1vamr7>](#) are also tested for low ozone emissions, and some may be available for purchase in Canada.
- Like all appliances, portable air cleaners must be maintained to continue working properly. Look for a unit that clearly indicates when the filter needs to be changed or when the precipitator plates need to be cleaned.
- Prices range from less than \$100 to more than \$1000 per unit. Online reviews can provide useful information about perceived effectiveness, reliability, and noise levels.

**Portable air cleaners work best when run continuously with the doors and windows closed.**



- Use portable air cleaners in the same rooms as window or mobile air conditioning units if you do not have central air conditioning.
- Closing doors and windows can be dangerous on hot days if you do not have air conditioning. Be aware of your body temperature and use common sense. For most people, heat stress is a bigger health risk than smoky air.



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