

Safety Note #207

Wildfire Smoke / Air Quality



In the era of climate change, wildfire has become increasingly common throughout the world, including California. Whether it is natural or human-caused, the fire produces smoke that contains harmful gases, chemicals, and fine particles that could potentially cause health issues to your respiratory system, including lungs, and your immune system. Smoke can enter homes and contaminate indoor air as well.

In a wildfire, the major contributor to smoke is fine particulate matter. Of particular concern are the smallest particles, known as PM_{2.5}. These particles are invisible to the eye. Because they are so small, they can travel deep into the lungs and be absorbed into the body. Larger particles, called PM₁₀, are usually visible in the form of ash. When inhaled, small bits are trapped high in the lungs and typically can be coughed out. However, they can still cause irritation.

Risky Groups impacted by wildfire:

- Children under the age of 18
- Adults over the age of 65
- Pregnant women
- Individuals with chronic health conditions such as heart or lung disease, asthma, or diabetes
- Outdoor employees

Smoke entering homes:

- Open windows and doors
- Bathroom or kitchen ventilation fans
- HVAC systems with a fresh air intake
- Small openings, joints and cracks, including those around closed windows and door

Ways to minimize exposure to wildfire smoke:

- Avoid going outdoors unless necessary
- Respirators with N95 or P100 ratings are recommended if going outside
- Monitor fires and air quality by checking with your local emergency management and from AirNow.gov
- Improve indoor air quality by closing the windows and use HEPA air purifiers (if air purifiers are unavailable, run the fan on your HVAC to allow the filter to remove indoor fine particles)
- Avoid activities that create smoke or other airborne particles, such as smoking tobacco, using gas, propane, or wood stoves, frying or broiling food, spraying aerosol products, burning candles, or vacuuming (unless it has a HEPA filter)