

Particle pollution in your home

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Pollution sources

In our home, pollution with health-hazardous particles typically comes from five sources:

- 1) Smoking, incense sticks, etc.
- 2) Wood stoves, fireplaces, etc.
- 3) Cooking.
- 4) Candles, oil lamps, etc.
- 5) Pollution from outdoor air.

Heaters with filaments, hair dryers and some vacuum cleaners, etc. can also contribute to indoor pollution, but are typically less significant than the abovementioned sources. Particle pollution must not be confused with dust (larger particles), which typically originate from skin cells, airborne dust, pollen or dust from the building itself, wear and tear of furniture, etc. Particle pollution can quickly disperse to the rest of your home. Therefore, it is important to always keep doors closed to the room where the pollution is generated, e.g., the kitchen when cooking or the living room when burning firewood, candles, etc.

1) Smoking, incense sticks, etc.

Indoor smoke can make both you and your family seriously ill. Second-hand smoking after you are finished smoking also increases the risk of getting ill for both you and your family– just as your guests and carers can be adversely affected.

The best thing is to stop smoking completely and stop using incense sticks, etc.

The next best thing is to go outside and smoke in places where it does not affect others. If you cannot go outside, aerate with strong draughts by opening windows at both ends of your home and smoke through an open window - remember to turn off the radiators in the meantime to minimize heat loss - or you can smoke under your cooker hood on the highest level and with the door to the kitchen closed. Let the cooker hood run for 10 min. after you are finished smoking. In nursing homes, an air purifier may be an emergency solution – read more here and be careful of what you buy: <https://godtindeklima.nu/wp-content/uploads/2023/12/air-purifiers-capability-to-reduce-exposure-to-pollution-generated-in-private-homes-med-appendix.pdf>

2) Wood stoves, fireplaces, etc.

Wood stoves and fireplaces can release particles directly to the air in the living room. It can make you and your family seriously ill. This applies regardless of how you kindle, and regardless of whether your wood stove is new or old - smoke extractors do not seem to solve the problem either. Families with wood stoves and fireplaces are rarely able to smell the pollution themselves and are therefore not aware of the hazard they expose themselves to.

More info: <https://en.godtindeklima.nu/wp-content/uploads/sites/2/2023/12/pollution-inside-houses-with-wood-stoves.pdf>

The solution is to stop using your stove, fireplace, etc. and maintain a cozy atmosphere with an electric wood stove or TV fireplace.

If you cannot do without wood burning, then aerate for 5 min. with draughts every half an hour (windows open on both sides of the house) when you use your stove/fireplace - remember to turn off the radiators in the meantime to minimize heat loss. Always keep the door(s) to the room with the stove closed (except while aerating) so that the pollution does not disperse to the rest of your home. As a supplement, an air purifier in the living room can be an emergency solution: <https://godtindeklima.nu/wp-content/uploads/2023/12/air-purifiers-capability-to-reduce-exposure-to-pollution-generated-in-private-homes-med-appendix.pdf>

3) Cooking

Frying, baking, roasting, etc., without the use of a powerful cooker hood, generates high levels of indoor air pollution that can make both you and your family seriously ill. Even if the food does not burn, a high level of particle pollution is generated.

Always use a powerful cooker hood on the high setting with an outside exhaust discharge - always use the toaster under the cooker hood on the high setting. Do not use tabletop ovens and cupboard ovens that are not under the cooker hood. Start the cooker hood 5 min. before you start cooking and let it run for 10 min. after you finish cooking (new cooker hoods with timers make this easy). Buy a low-noise cooker hood, if necessary, with an external motor if the cooker hood is too noisy. Remember to clean the filters in the cooker hood often to maintain efficiency.

Always close the door to connecting rooms when you cook, so that cooking fumes do not disperse to the rest of your home.

If it is not possible to install a cooker hood with outside exhaust discharge, always open the window in the kitchen while cooking and buy a recirculation hood (be sure to change the filter often).

4) Candles, oil lamps, etc.

Candles, oil lamps, etc. generate high indoor air pollution, which can pose a particular problem in restaurants and other places where live fire is used for creating a cozy atmosphere. The level of contamination is high regardless of whether the candles are made from real candle wax or from other materials.

The solution is to replace candles, etc. with realistic battery driven candles or other cozy electric lighting.

If you cannot stop using candles, use as few candles as possible as rarely as possible, and keep the door to connecting rooms closed (except when you aerate) so that the pollution does not disperse to the rest of your home. Aerate thoroughly for 5 min. with draughts 3 times an hour (with open windows on both sides of the house) when you use candles - remember to turn off the radiators to minimise heat loss.

5) Pollution from outdoor air

Pollution from road traffic, wood smoke, diesel trains, cruise ships, etc. that occur close to your home can significantly pollute the indoor environment when windows are open or if your home has mechanical ventilation that sucks the pollution into your home. Sealed, new windows are tight and often keep pollution out.

More info: <https://en.godtindeklima.nu/wp-content/uploads/sites/2/2023/12/wood-smoke-in-houses-with-mechanical-ventilation-1.pdf>

If you live next to a trafficked road, keep the windows facing the road closed during rush hour. Keep the windows closed if the outside air smells like wood smoke or smoke from diesel trains, cruise ships and the like. If your windows are not tight, replace the windows or buy and install sealing strips from a hardware store.

If you have mechanical ventilation, replace the filter with a better filter (HEPA or EPA filters) and have an activated carbon filter installed in the ventilation system, if it is technically possible. Note that the filters must be changed regularly.

Talk to your neighbor about finding a good solution if you smell the neighbour's wood smoke. If that does not help, or if the air outside your home - or the air entering your ventilation system - smells like wood smoke, diesel fuel, slurry, etc., then file a complaint to the municipality.

More on indoor air pollution and solutions:

www.healthyindoorenvironment.org