

Chemical air pollution in classrooms

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Pollution sources

In the classroom, air pollution of health-hazardous character from chemicals typically comes from two sources:

- 1) Chemicals that are released from products, equipment, materials, etc.
- 2) Pollution from outdoor air.

Chemical air pollution can quickly disperse throughout the school. Therefore, it is important to always keep the doors closed to the room where pollution is generated, e.g., the canteen, home economics, shop class or workroom.

Harmful chemicals in the indoor air can cause problems such as headaches, but can also increase the risk of cancer, allergies, hormonal disorders, and other serious diseases. Not all chemicals are harmful or occur in harmful concentrations. If children or employees develop allergies, chemicals can trigger allergic reactions even in small concentrations. The safest is therefore to avoid harmful chemicals in the indoor environment altogether. Young children, pregnant women and people with allergies are particularly sensitive to harmful chemicals.

1) Release of chemicals

Chemicals can evaporate as gases from cleaning agents, paint, varnish, cleaning liquids (turpentine, acetone, etc.), furniture, building materials, etc. It can, for example, be PCB, formaldehyde, toluene, etc. Likewise, chemicals can adhere to the microscopic particles that are released through wear and tear of toys, clothes, etc. Some chemicals from furniture and toys you clearly smell, while others you do not smell at all. Odourless chemicals are not necessarily less harmful than those we can smell.

If possible, always buy water-based products and products without hazard labels. Spray products should be avoided.

The general chemical load of the indoor air can be reduced by aerating with a draught (opening all windows) for 5 minutes 3-5 times a day (always once in the morning) - remember to turn off radiators to minimise heat loss. Finally, frequent and thorough cleaning can remove dust that contains chemicals.

2) Pollution from the outdoor air

The outdoor air can contain harmful gases from road traffic, wood burning, diesel trains, cruise ships, etc. that are close to the school. This can significantly pollute the indoor air when windows and doors are open, or if the school has mechanical ventilation that sucks in the pollution. Closed, new windows and doors are usually tight and keep pollution out.

Read more in the factsheet: *Does the outdoor air pollute in classrooms.*

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

Have measurements made

We can help with measurements and assessments of the indoor environment, and solution options to get a better indoor environment. Contact the Head of secretariat Kaare Press-Kristensen: kaare@godtindeklima.nu / tel. (+45) 22 81 10 27.

More on indoor air pollution and solutions:

www.healthyindoorenvironment.org