

Airborne dust and health effects

Community Fact Sheet

What is dust?

Dust is a common air pollutant. Dust consists of particulate matter (PM) in the air. Particulate matter describes very small solid or liquid particles in the air.

Dust particles vary in size. Some of these particles are big enough to be seen, while others are so small that they are invisible to the human eye. Particles smaller in size than 10 µm (micrometre) diameter are known as PM10. Particles less than 2.5 µm are called PM2.5.

Dust can come from natural sources or human activity.

Limiting exposure to airborne dust

Reducing your exposure to dust is a good idea and may help to reduce health-related issues. When you are irritated by dust or on poor air quality days consider:

- Reducing outdoor activity.
- Reducing vigorous exercise, especially if you have asthma or a breathing-related condition.
- Staying indoors in air-conditioned premises if possible and ensure regular maintenance of air conditioner filters and close windows and doors.
- Vacuuming indoors regularly with a high efficiency particulate air filter.

Possible health effects from dust exposure

Health effects from dust depend on the size of the particles, the amount of dust there is, the composition of the dust, how long people have been exposed to dust, and people's health.

The most common symptoms experienced during a period of high dust exposure are irritation to the eyes, ear, nose, throat and upper airways.

Small or fine particles (i.e. particles less than 10 µm), can get deeper into the respiratory tract and lungs and may cause breathing-related problems.

People who may be most vulnerable to health effects from dust

Some people may experience more severe outcomes when exposed to dust. This includes:

- infants and young children
- the elderly
- people with respiratory conditions, such as asthma, bronchitis and emphysema
- people with heart disease, and
- smokers.

Specific types of dust

Specific components of ambient dust may have the potential to cause health effects. Examples include:

- Compost dust may contain soil microbes, pathogens, including legionella
- Dust from contaminated land sites may contain toxic metals e.g. lead
- Pollens
- Particulate matter from wood smoke or vehicle exhausts

Respirable crystalline silica (RCS)

RCS is a component in some ambient dusts.

Although RCS carries a known risk of respiratory disease, including lung cancer, in occupational settings where exposures are typically high, the risk to non-occupational groups (including residents living near quarries) from lower level RCS exposures is not well understood. Taking a precautionary approach by generally limiting exposure to dust is recommended.

In 2018, the Christchurch City Council, Environment Canterbury and the Canterbury District Health Board ran a three-month air quality monitoring programme, specifically looking at RCS risk in the Yaldhurst area. The results found no public health risk from RCS.

What to do if you experience symptoms

If you experience symptoms related to dust exposure, phone Healthline (0800 611 116) for free 24-hour health advice or see your doctor.

If you have asthma or another respiratory condition and you develop symptoms such as shortness of breath, coughing, wheezing or chest pain, follow your prescribed treatment plan. If symptoms do not settle quickly, seek urgent medical advice.

For further information

Report an environmental issue: <https://www.ecan.govt.nz/report-an-environmental-incident/> or phone (03) 366 4663 or 0800 765 588

About work place exposure to silica see: <https://worksafe.govt.nz/>

About air pollution see: <https://www.cph.co.nz/your-health/air-quality/> and <http://www.letscleartheair.co.nz/>

About the Canterbury Air Regional Plan see: <https://www.ecan.govt.nz/your-region/plans-strategies-and-bylaws/canterbury-air-regional-plan/>