

Port Hedland Air Quality and Noise Management Plan

Port Hedland Dust Taskforce
www.dsd.wa.gov.au/PHDTF

Fact Sheet 2 Dust and Health

The Western Australian Department of Health is providing this information about possible health effects of dust in Port Hedland to inform residents and to assist in preparing the Port Hedland Air Quality and Noise Management Plan.

High concentrations of dust in Port Hedland, and especially in the town's West End, present potential health risks to residents.

How does dust affect health?

Dust particles that are inhaled can cause irritations that range from coughing and sneezing, to hayfever-type reactions and asthma attacks.

Breathing a high concentration of dust over many years is thought to cause chronic (long term) breathing and lung problems.

Finer dust particles (less than 2.5 micrometres in diameter $PM_{2.5}$) are more likely to be absorbed into the lungs.

Urban dust, which includes materials from vehicle emissions and other combustion products, is more hazardous than dust which is low in combustion products.

Port Hedland dust is predominately iron ore, relatively large in size (less than 10 micrometres diameter PM_{10}) and contains low levels of urban emissions.

Who is at risk?

Anyone who is exposed to high levels of dust can be potentially affected – the longer they are exposed the greater the potential effect.

Babies and elderly people are particularly likely to develop chronic health problems from long term exposure.

People with existing respiratory and heart conditions, and smokers, are also at greater risk of developing chronic conditions in the future.

What can be done?

The Department of Health recommends that people who are at risk of developing short term and long term health problems – babies and small children, elderly people and people with respiratory or heart disease – should not live permanently in the West End.

Reducing long term exposure to high concentrations of dust for all people should be a priority, including by:

- Using building design and maintenance to limit dust penetration.
- Favouring short term occupancy (eg hotel, holiday or fly in fly out) or non residential activity in the West End.
- Reducing dust emissions.

The Department of Health recommends a maximum allowable level for dust (PM_{10}) of $70 \mu\text{g}/\text{m}^3$ (micrograms per cubic metre) over 24 hours with no more than 10 exceedances per year, for those parts of Port Hedland not subject to the planning controls.

The Port Hedland Air Quality and Noise Management Plan incorporates these recommendations.

Studying Port Hedland dust and health

The Department of Health, in cooperation with other government agencies, has coordinated a series of studies to investigate the potential risk to people's health of breathing air high in iron-oxide rich PM_{10} in Port Hedland. These were Hospitalisation

Study; Literature Review and Report; and Cell Study.

Key findings of these studies were:

- The rate of hospital admissions for respiratory conditions was higher in the West End between 1993 and 2004 for older adults and children.
- Residence of Port Hedland could tolerate a higher level of dust than would be tolerated in cities because of the unique characteristics of Port Hedland dust.
- The cell study found no significant difference between how dust from Port Hedland and dust from urban areas affected the test cells. Because it is not possible to make any conclusions on the risk to human health based on this study alone, more elaborate studies are underway to investigate what these results mean for people's health.

The studies can be downloaded from the Public Health website (under Health hazards in the Environment, Topical Issues) at: <http://www.public.health.wa.gov.au>.

They are also available from the Port Hedland Dust Taskforce webpage at: <http://www.dsd.wa.gov/PHDTF>.

