

Work Health and Safety Alert and Advice

Smoke Haze – Bushfires and Air Quality

Bushfire smoke contains a mixture of gases and very fine particles that can be hazardous to health. Those most at risk are firefighters and outdoor workers.

The short-term health hazards include making asthma and chronic bronchitis/emphysema worse. People who suffer from chronic bronchitis/emphysema or heart conditions are at an increased risk and should take additional precautions, including staying indoors.

Asthmatics may need to use their medications more often.

Air quality is measured using an Air Quality Index (AQI). The AQI combines the measures of ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, particles PM10 and PM2.5 and visibility into a rating of air quality. PM2.5 is the smallest and usually most harmful particle.

An AQI less than 50 indicates that the air quality is good. At this low level, a person can spend time outdoors and air pollution will pose very little risk to their health. As the AQI number increases, so does the risk to human health.

Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Fair	67 to 99	Sensitive groups: plan strenuous outdoor activities when air quality is better.
Poor	100 to 149	The general public is not likely to be affected. Sensitive groups cut back or reschedule strenuous outdoor activities.
Very poor	150 to 199	Everyone cut back or reschedule strenuous outdoor activities. Sensitive groups should not be doing strenuous outdoor activities.
Hazardous	200+	Sensitive groups avoid all outdoor physical activities. Everyone significantly cut back on outdoor physical activities

Sensitive groups include people with asthma or lung problems of any kind, people with heart disease, diabetes or previous stroke, children under 14, people over 65 and people who are pregnant. Source NSW government advice.

The EPA or Health department in states and jurisdictions publishes air quality information regularly.

People most at risk from particle pollution exposure include **those with heart or lung disease (including asthma and chronic obstructive pulmonary disease-COPD), older adults, and children.** Research indicates that pregnant women, newborns, and people with certain health conditions, such as obesity or diabetes, also may be more susceptible to Particulate Matter (PM)-related effects.

Work Health and Safety Alert and Advice

Smoke Haze – Bushfires and Air Quality

When the AQI is above 200 it is likely that even healthy people may experience eye, throat and nose irritation, coughing, chest tightness and shortness of breath.

Exposure needs to be avoided by staying indoors with windows closed and running an air conditioner, keeping activity levels low and avoiding activities that make you breathe faster and deeper.

The steps needed to minimise exposure include:

- locating work inside or in enclosed structures/vehicles with filters effective for PM2.5 particles
- changing the place of work to where levels are lower
- reducing work time in area of unfiltered air
- increasing frequency and length of rest times and
- reducing the physical intensity of work to help lower breathing and heart rates.

Expert advice is required for any use of respiratory protection. Respirators need to be able to filter particles and fit the person's face well. Respirators can increase health risks especially when it's hot and physical work is involved. Those with medical conditions need medical advice before using respiratory protection.

If you have concerns about exposure in your workplace contact your union. If you or others are experiencing any of these symptoms you should seek medical advice.