

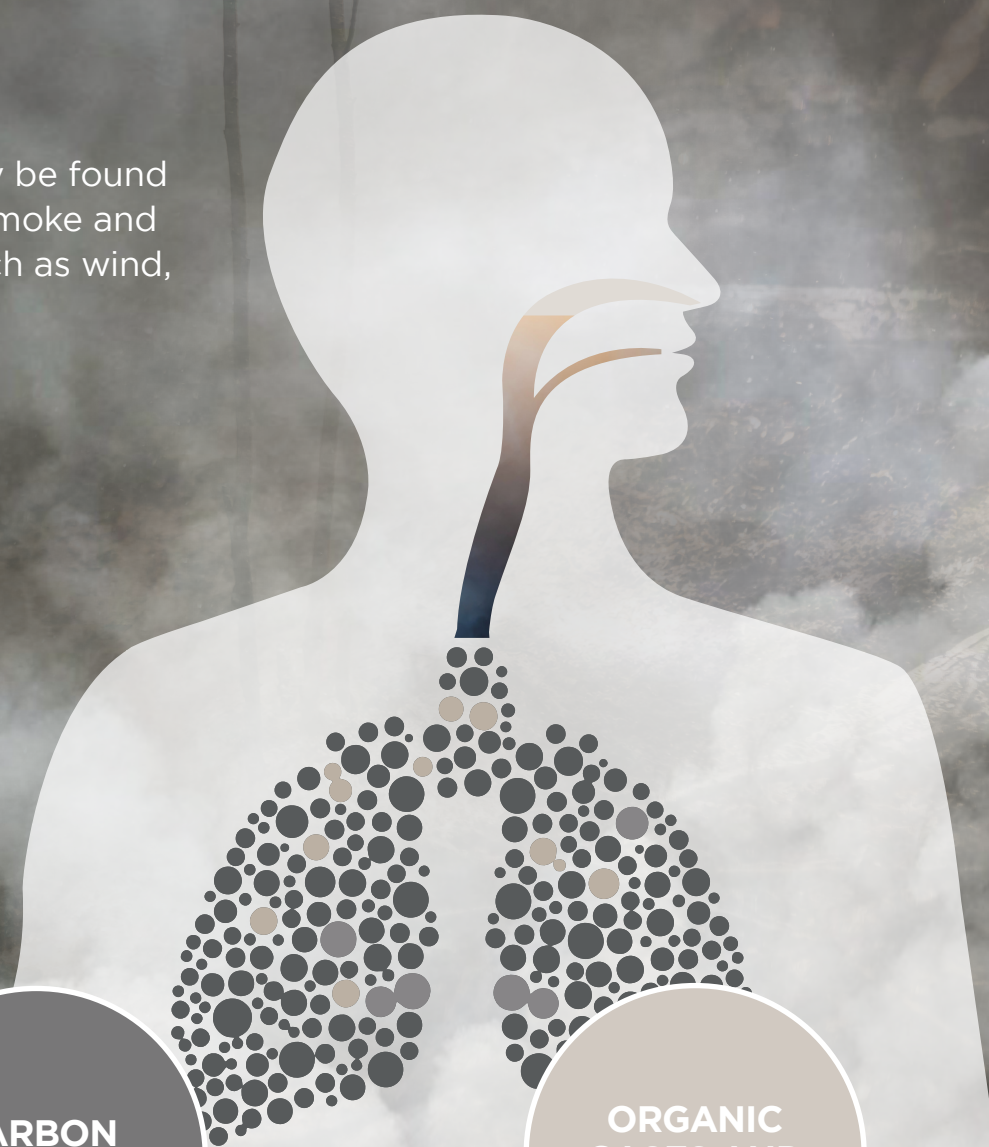
RESPIRATORY HAZARDS

BUSH FIRE SMOKE

This guide provides an overview of what hazards may be found in bush fire smoke. It's important to remember that smoke and hazards are relative to the fire conditions at hand, such as wind, temperature, humidity, bush fire fuel type and loads.



The best protection from any respiratory hazard is avoidance. Stay out of smoke as much as practicable.



RESPIRABLE PARTICULATES

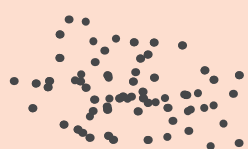
- Fine and ultra fine (<2.5µm) particles of carbon material
- Produced as material undergoes thermal degradation
- The largest component of smoke and the visible grey/black material
- Particulates are fine enough to penetrate the lung walls
- Protection from respirable particles is provided by particulate filters such as P2 or P3

CARBON MONOXIDE

- A colourless, odourless gas produced by the incomplete combustion of material
- Can cause nausea, headaches and dizziness
- The second-largest component of smoke
- Fresh air is the only protection, and will assist in removing any carbon monoxide in the body over time

ORGANIC GASES AND VAPOURS

- A range of gases produced from burning material, including:
 - Formaldehyde
 - Acrolein
 - Volatile Organic Compounds
- Most of these gases produce a taste or burning sensation in the throat and eyes
- The smallest component of smoke
- Can be protected by ABEK gas canisters on reusable respirators



Incomplete Combustion

- Finer particulates
- More carbon monoxide
- More gases and vapours
- Hazards stay closer to ground level



Complete Combustion

- Larger particulates
- More carbon dioxide instead of carbon monoxide
- Less gases and vapours
- Hazards get carried higher into atmosphere