



WELDING FUME EXPOSURE

Safe Work Australia has reduced general welding fume exposure limits from an 8 hour time weighted average (TWA) of 5 mg/m³ to 1 mg/m³, reflecting the dangers of even low-level fumes. This is in addition to existing limits for specific hazardous components like chromium and nickel.

WHAT CAUSES WELDING FUMES?

Welding fumes can be generated or exacerbated by various factors, including the choice of material, filler metal, shielding gas mixture, and welding machine settings. Once you have minimised the causes of fume formation as best as practical, using fume extraction and respiratory protection will then help to protect both the welder and others in the vicinity from welding fumes.

HOW TO PREVENT FUME EXPOSURE



Choose the lowest fume-generating material and filler metal

Consult with suppliers for accurate advice on specific products and alternative low-fume options.



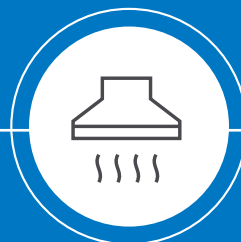
Reduce fume levels by using gas mixtures with lower CO₂

CO₂ levels are linked to increased spatter and fume levels. Alternative lower CO₂ gas mixes may still meet your performance needs.



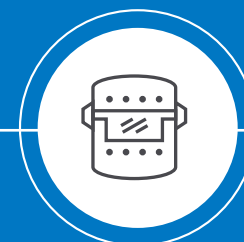
Optimise machine settings to reduce fume levels

Avoid using unnecessarily high consistent currents. Pulsed welding machines can be optimised in most cases to reduce fume level generation.



Reduce fumes with fume extraction

This can be on torch extraction through to portable/fixed styles. Also consider monitoring systems that constantly measure fume levels in the workshop.



Filter out fumes with respiratory protection

At a minimum, wear rated masks. Ideally, PAPR style welding masks/helmets are best practice as they provide clean air, respiratory protection and support productivity.

FOR FURTHER ASSISTANCE

Consult suppliers to review fume reduction, extraction, and protection opportunities throughout your welding processes. Coregas and our welding equipment partners can support you with any questions you have. Contact us for more information and solutions to keep your team safe.

