

Aluminium (welding fumes)

Workplace exposure standard (WES) reduction

Aluminium welding is widely used in boat building and repair. Like other welding processes, it produces hazardous fumes that can harm workers' health.

From **17 November 2025**, the workplace exposure standard (WES) for Aluminium (welding fumes) will be **reduced from 5 mg/m³ to 1 mg/m³** (as an 8-hour time weighted average).

This reduction brings the WES for aluminium welding fumes in line with the existing WES for welding fumes (not otherwise classified) to better protect workers from harmful effects of welding fumes.

Remember, all welding fumes are hazardous, and not all welding fumes are visible.
Just because you can't see them doesn't mean they're not there.

What is the WES?

A person conducting a business or undertaking must make sure that no one at the workplace is exposed to levels of a substance or mixture that exceeds the WES.

From **17 November 2025**, the Aluminium (welding fumes) WES is 1mg/m³ as an **8-hour time-weighted average (TWA)**. This is a worker's average airborne exposure in any 8-hour work shift of a 40-hour week. If you are unsure if the airborne concentration of welding fumes is above the limit, an occupational hygienist can conduct air monitoring in the worker's breathing zone at a time when usual work activities are taking place.

From 1 December 2026, WES will be replaced by workplace exposure limits (WEL).

What does this change mean for my workplace?

You should review and update the controls used in your workplace where necessary, to ensure exposure to aluminium welding fumes is as low as is reasonably practicable and does not exceed the new WES. Even though the WES has been reduced, you may already be effectively controlling exposure if:

- Your workplace is applying the controls outlined in the [model Code of Practice: Welding processes](#); or
- Your workplace has control measures in place to meet the 1 mg/m³ exposure limit for total welding fumes (not otherwise classified), which was introduced on 18 January 2024, or
- You only weld aluminium occasionally and have effective control measures in place.

What do I need to do?

- **Review and update your welding fume controls** to make sure exposure stays below the 1mg/m³ limit. Take all reasonably practicable steps to eliminate and minimise risks.
- **Use the model [Code of Practice: Welding Processes](#)** for guidance. It provides advice and control measures for welding hazards, such as ventilation and personal protective equipment, and outlines other WHS duties.
- **Well maintained and properly worn respiratory protective equipment** can be taken into account when determining compliance with the WES, provided all other reasonably practicable higher control measures in the [hierarchy of controls](#) have been implemented.
- **Get expert advice** (such as from an [occupational hygienist](#)) if you are not sure you are meeting the new limit and to find out if your control measures are effective.
- **Stay informed** of updates from your [WHS regulator](#) to know when the new limit becomes legally enforceable in your jurisdiction.

How do I control welding fumes?

You must always use the hierarchy of controls to manage workplace risks from welding fumes, mists, dusts, vapours and gasses. In some cases, a combination of control measures are likely to be necessary.

↑ Most effective	Eliminate the need to weld	<i>e.g. Use pre-cast components instead.</i>
	Substitute materials and processes	<i>e.g. Use alternative welding consumables or Tungsten inert gas (TIG/GTAW) welding.</i>
	Isolate the hazard	<i>e.g. Weld in isolation booths away from other workers.</i>
	Use engineering controls	<i>e.g. Use on-torch fume extraction and local exhaust ventilation.</i>
← Least effective	Administrative controls	<i>e.g. Provide appropriate worker training.</i>
	Use Personal Protective Equipment	<i>e.g. Select appropriate respirators (such as a powered air-purifying respirators).</i>

Further information

See the [model Code of Practice: Welding Processes](#), or visit the [Safe Work Australia website](#).