



Welding fumes in mines: checklist

This self-assessment checklist is a tool to assist duty holders such as mine operators and persons conducting a business or undertaking (PCBUs) to manage work health and safety risks associated with work carried out in mines where welding fumes may be created.

This checklist should not be relied upon to ensure compliance with all requirements set out in the *Work Health and Safety Act 2020* (WHS Act) and *Work Health and Safety (Mines) Regulations 2022*.

Welding practices	
Item	Required actions or comments
Type(s) of welding or cutting used: Metal Inert Gas (MIG) Tungsten Inert Gas (TIG) Oxy-gas-cutting Manual plasma cutting Manual Metal Arc (MMA) Oxy-gas-brazing Arc-air gouging	
Material(s) being welded or cut: Mild steel Stainless steel Exotic materials Aluminium Other _____	
Ventilation method: Local exhaust ventilation Forced dilution ventilation Natural dilution	

Operational controls				
Item	Result			Required actions or comments
Forced and local ventilation is effective. Fumes are drawn away from the work area, air is clear of visible haze, ventilation equipment inspections occur 3-6 monthly.	Yes	No	N/A	
Welding does not occur in enclosed pits or corners without an adequate ventilation system (refer to regulation 5 WHS Mines Regulations for confined space definition).	Yes	No	N/A	
Adjacent tasks are carried out safely and do not increase risks associated with welding fumes (e.g. grinding, cutting and other hot work are identified and controlled).	Yes	No	N/A	
Leads are properly earthed, free of damage, and safe from water and heat. Leads are tagged and tested.	Yes	No	N/A	

Work area				
Item	Result			Required actions or comments
Work area has adequate lighting.	Yes	No	N/A	
Access and egress routes are kept clear of obstructions.	Yes	No	N/A	
Gas cylinders are upright and chained, flammables are appropriately stored.	Yes	No	N/A	
Slips, trips and falls are managed (e.g. non-slip flooring, cables appropriately routed).	Yes	No	N/A	
Others in the workplace are protected from welding fumes (e.g. opaque curtains or screens installed, warning signage and access restriction).	Yes	No	N/A	
Screens for ultraviolet and infra-red radiation are in place. Screens are intact, cover line of sight. There are no gaps in screens and the arc is not visible externally.	Yes	No	N/A	
Workers do not eat, drink or smoke in areas where welding fume is generated.	Yes	No	N/A	

Personal protective equipment				
Item	Result			Required actions or comments
Appropriate respiratory protective equipment (RPE) is provided where fumes cannot be otherwise controlled.	Yes	No	N/A	
All workers using RPE are clean-shaven, fit-tested and trained in its proper use.	Yes	No	N/A	
RPE is maintained, cleaned and stored correctly.	Yes	No	N/A	
Supervisors are trained to monitor compliance with welding fume controls and personal protective equipment (PPE) and RPE usage.	Yes	No	N/A	
Eye, face, hand, hearing protection are suitable and used.	Yes	No	N/A	
Clothing is flame resistant; welding apron used and leather spats used as needed.	Yes	No	N/A	

Verification and control effectiveness				
Item	Result			Required actions or comments
Exposure monitoring is undertaken and reviewed.	Yes	No	N/A	
Welding hazards and results are integrated into the site's health management plan (HMP).	Yes	No	N/A	
Specific welding fume constituents (e.g. hexavalent chromium, manganese) are identified in the HMP, results are below the exposure limits <i>Note: the workplace exposure standard for total welding fumes is 1 mg/m³ over an 8-hour shift based on a five-day working week.</i>	Yes	No	N/A	
Controls are being used and are effective (e.g. observe active welding processes, checking for visible extraction of fumes, use of screens, barricades and signage, use of PPE and RPE).	Yes	No	N/A	
A system is in place for making corrective actions related to welding fumes.	Yes	No	N/A	
The risk assessment is reviewed when processes or materials change to ensure new risks are identified and controlled.	Yes	No	N/A	

Health monitoring

Item	Result			Required actions or comments
Type(s) of monitoring used on site: Area and static monitoring (measures airborne contaminant levels at a fixed location or during a task). Personal air monitoring (measures the concentration of a chemical in the air in a person's breathing zone). Biological monitoring (involves analysis of urine or blood samples collected from a worker).				
Welding hazards and results are integrated into the site's health management plan (HMP).	Yes	No	N/A	
Baseline health assessments are conducted before or shortly after exposure begins to establish a reference for detecting changes.	Yes	No	N/A	
Health monitoring is provided to a worker to detect any signs of exposure related effects.	Yes	No	N/A	
The health monitoring program is supervised by a registered medical practitioner to ensure results are interpreted and managed appropriately.	Yes	No	N/A	
A system is in place for keeping health monitoring records. Records must be kept confidential and retained for 30 years.	Yes	No	N/A	

Additional Comments

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.