

Information for Employers and Duty Holders

Welding Fume Risk – How to Protect Your Workers

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HSE Expectations

The HSE have changed their enforcement expectations in relation to the control of exposure to welding fume since new scientific evidence was published in 2019.

It is now understood that exposure to all welding fume, including mild steel, can cause cancer. **There is no known safe level of exposure.**

The HSE will no longer accept any welding undertaken without any suitable exposure control measures in place, regardless of duration, including welding outdoors.

It is expected that engineering controls such as local exhaust ventilation (LEV) are utilised; be it on a flexible arm, at extracted benches or booths or even on-torch extraction.

If adequate control cannot be achieved from LEV alone then you must provide your workers with suitable respiratory protective equipment (RPE).

Health Effects of Welding Fume Exposure

Acute respiratory health effects:

These illnesses occur quite soon after exposure to welding fume and can include irritation to the throat/airways/lungs, acute irritant-induced asthma, metal fume fever and acute pneumonia.

Chronic respiratory health effects:

These effects develop more gradually after exposure to welding fume and result in more serious diseases including lung cancer, kidney cancer, chronic obstructive pulmonary disease (COPD), Welder's lung and occupational asthma.

Neurological effects:

Exposure to manganese, which is present in mild steel welding fume, can lead to neurological symptoms similar to Parkinson's disease with symptoms including speech and balance disorders.

Compliance Management

All duty holders should ensure effective engineering controls are provided, correctly used, suitably maintained, and reviewed regularly.

All LEV must undergo statutory Thorough Examination and Testing (TEtT) at the correct intervals, with remedial actions implemented.

Staff should be provided with instruction and training regarding implementing control measures and good practice techniques to reduce fume exposure.

A competent occupational hygienist can help you to determine how effective your control measures are by conducting exposure/air monitoring surveys, risk assessments and TEtT, helping you to protect your workforce and remain compliant with COSHH (2002) and HASAWA (1974).

An occupational hygienist can help to determine if you are compliant and protecting your staff adequately.

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