7 June 2019

To: Heads of Institution, HR Directors, Heads of Health and Safety and all recipients of Health and Safety Updates

Please distribute to: Health and Safety and Occupational Health professionals and relevant senior managers.

Safety alerts - mild steel welding fume and 3D printer hazards

Executive summary

- The Health and Safety Executive (HSE) has issued a safety alert advising that all welding fume, including mild steel, is now classed as a carcinogen which can cause lung cancer and has the potential to cause kidney cancer.
- The HSE has also published a research report warning that 3D printers can create harmful emissions which could potentially endanger users.

Action for members: Review risk assessments as appropriate

Mild steel welding fume

The HSE issued a safety alert in February confirming that all welding fume (including mild steel) is now classed as a carcinogen which can cause lung cancer and has the potential to cause kidney cancer. This is based on research by the International Agency for Research on Cancer (IARC). There are significant implications for Higher Education Institutions (HEIs), for example, where welding is part of art or vocational programmes. The HSE has now strengthened its enforcement expectation for all welding fume and expects that risk assessments should reflect the change in the control measures expected by the HSE.

The alert requires all organisations undertaking welding activities to ensure effective engineering controls are provided and used correctly in order to control fume arising from those welding activities. Where engineering controls are not adequate to control all fume exposure, adequate and suitable respiratory protective equipment (RPE) is also required to control risk from the residual fume. Additional guidance is available in the HSE’s Operational Guidance Manufacturing Sector Workplan for 2019-20: occupational lung disease and the HSE is planning further guidance.

3D printer hazards

Affordable desktop 3D printers are being used widely in businesses, schools, colleges and universities. An HSE report, Measuring and controlling emissions from polymer filament desktop 3D printers warns that 3D printers can create harmful emissions which could potentially endanger users. The HSE report is based on laboratory research which highlights the risks associated with common filament materials and ways of reducing exposure.

The HSE and the Consortium of Local Education Authorities for the Provision of Science Services (CLEAPSS) have published a good practice guide, 3D printing in schools and colleges: managing the risks, which provides advice about precautionary measures for safe use of desktop 3D printers and measures to minimise health risks. Members may find the guide helpful to reference as part of ongoing risk assessment activities.

Enquiries: Please address to Nicola Carter, Head of HR Advice at n.carter@ucea.ac.uk or Alison McGrand, Senior Employment Policy Adviser at a.mcgrand@ucea.ac.uk

©UCEA June 2019

Although every effort is made to ensure that the information contained within this document is timely and accurate, UCEA cannot be held responsible for any unintentional errors or omissions. The information provided in this document is not intended to be either legally binding or contractual in nature. Should you require more specific advice, you may wish to consult an appropriately qualified legal professional.