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Acetylene Policy

Document Control:

Policy Owner:	The Director of Health and Safety or equivalent position
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Amendment History:

Version Number:	Effective Date:	Summary of Amendments:	Author:
V1 05 03 18	05/03/18	Initial version of document	John Phillips
V1.1 28 07 22	01/08/22	Review – Minor administrative changes	Rebs Lawden
V1.2 13 02 26	08/05/26	Review – minor amendments, converted responsibilities to a Responsibilities grid, change of template Changes to policy statements to clarify and expand points for clearer understanding, and to reflect technical changes at the university e.g. new systems, INVIDA, LabCup.	Kate Thompson

1. Purpose

- 1.1 The Acetylene Safety (England and Wales and Scotland) Regulations 2014 (ASR) are additional regulations to the Dangerous Substances and Exploding Atmosphere Regulations covering the safe use of acetylene. Acetylene gas poses an additional hazard to other flammable gases as it is also reactive. Under certain conditions, even in the absence of any air or oxygen, it can decompose explosively into its constituent elements, carbon and hydrogen such as when the acetylene cylinder is involved in a fire, or if a flashback from an acetylene flame travels back to the cylinder. The danger from acetylene cylinders is unique, because it persists for some time (24 hours or more) after the fire has been extinguished. Acetylene cylinder explosions are violent and extremely destructive, and they pose a special risk to the emergency services.

Within the University, acetylene is used for oxyacetylene cutting and welding and to a much lesser extent in chemical synthesis and in analytical instrumentation.

2. Scope

- 2.1 This Policy applies to and within all buildings across the University's campuses, including Gibbet Hill, Westwood and Stratford Innovation Campus. This Policy is supported by arrangements, instructions, and guidance on the safe use and storage of acetylene which are available on the University's Health and Safety web pages.
- 2.2 Under the provisions of Regulation 26, Safety Regulations and associated University Health and Safety Policy document, it is the duty of all staff, students and others working in the University to comply with this Policy, together with any other instructions, rules and guidance that may apply.

3. Responsibilities

The table below outlines the key responsibilities associated with this Policy and should be read alongside the detailed role responsibilities set out in the [Leadership and Management of Health and Safety at the University of Warwick](#) documents.

Role	Responsible for
<i>Heads of Departments</i>	<i>Ensuring this Policy is implemented within their respective areas. Including but not limited to, ensuring completion of risk assessment, suitable control measures are implemented, and cooperation with host employer.</i>
<i>Departmental Senior Administrative staff</i>	<i>Supporting Heads of Department in meeting the expectations placed on them in relation to delivering the requirements of this Policy.</i>
<i>Technical Services Managers</i>	<i>Ensuring that all technical activities, equipment, facilities, and technical staff within their area are managed safely and effectively. This includes ensuring that relevant risks are assessed, equipment is appropriately maintained, technical staff are trained and supervised, and that all applicable safety arrangements are implemented and communicated within their area.</i>
<i>Supervisors & Managers (including Academic staff e.g. Principal Investigators)</i>	<i>Ensuring that all people, activities, and research projects they lead are planned, conducted, and supervised safely. This includes ensuring that appropriate risk assessments are completed, that staff and students working under their supervision are competent, trained, and supported, and that all safety requirements relevant to their work are implemented and followed.</i>
<i>All staff</i>	<i>Complying with this Policy and the associated arrangements, instructions and guidance.</i>
<i>The Director of Health and Safety or equivalent position</i>	<i>Advising on the standards and regulations that must be achieved in order to meet legal requirements; for keeping the University's Health and Safety website up to date with the related policy documents; and for ensuring that spot checks and audits are carried out to provide assurance that activities are being carried out in compliance with this Policy.</i>

4. Policy Statement

- 4.1 Acetylene shall only be used where it has been demonstrated that safer alternative methods or fuel gases (such as mechanical techniques, electric welding, or oxy-propane systems) are not reasonably practicable. The risk assessment must explicitly record the reasons why these alternatives cannot be used.
- 4.2 Suitable and sufficient risk assessments must be made for any activity which uses acetylene which if not properly controlled might cause harm to people as result of fire and explosion.
- 4.3 The use of oxyacetylene cutting/welding units will require a 'Hot Work' Permit issued by the University Permits Office when the oxyacetylene unit is being used in spaces other than welders/brasers hearth. The permit will require a supporting risk assessment.
- 4.4 Where acetylene is used within laboratories for experimental, analytical, or teaching purposes, its use must be subject to a documented risk assessment that includes justification for its selection and the control measures for safe use and storage.
- 4.5 All equipment using acetylene must be fitted with an appropriate regulator and flame arrestor. This includes oxyacetylene cutting/welding equipment.
- 4.6 Workspaces where acetylene is stored must be identified on the lab or workshop noticeboard and an up-to-date noticeboard must be available in the INVIDA Hazards Module. Guidance on how to do this is available via the Health and Safety webpages, and access can be requested through, or arranged by, your local Health and Safety Services team member.
- 4.7 Locations where acetylene cylinders are stored must be recorded in LabCup to ensure a central record is available for audit and emergency purposes.
- 4.8 Appropriate signage and 'Notice Boards' must be displayed at the entrance to these workspaces.
- 4.9 Control measures will include but not limited to: storage management procedures to ensure the cylinders remain within the statutory test date. All hoses, fittings and flame arrestors are subject to regular checks and records maintained.
- 4.10 Portable acetylene cylinders must be returned to their approved storage location when not in use. These should ideally be stored outside of main buildings when safe and practicable to do so.
- 4.11 All persons who use acetylene are trained in its safe use and the actions to take in the event of an emergency. Regular refresher training must be undertaken.
- 4.12 Records must be kept of all risk assessments undertaken, information and instruction provided and all checks and maintenance carried out on safety measures and equipment. Regular reviews will be undertaken to ensure the information etc, remains suitable.

5. Associated Documents

<https://warwick.ac.uk/services/healthsafetywellbeing/guidance/acetylene/>

<https://www.hse.gov.uk/pubns/indg327.htm>