

## DEPARTMENT OF ELECTRONIC AND ELECTRICAL ENGINEERING

# DEPARTMENTAL RULES ON THE PURCHASE, DELIVERY, OR PRODUCTION OF HAZARDOUS EQUIPMENT AND CHEMICALS 2023/24

### 1) Mains-powered electrical goods

Mains powered electrical items brought on site must receive a Portable Appliance Test (PAT) before use. Contact the teaching lab technical team for assistance. New equipment found without valid PAT may be turned off and confiscated without notice.

Exceptions to this rule:

- Equipment brought temporarily on site by contractors or service engineers that will be used only by the contractors or service engineers.
- Equipment designed for outdoor use & regular transport must have an in-date PAT, however it does **not** need to be retested each time it is brought on-off site.
- Equipment transferred temporarily between departments/units of UCL must have a valid PAT. However, a retest is **not** required if an in-date PAT has been performed by the donating UCL department/unit.
- Minor mains powered items brought on site for short periods for personal use (e.g., phone chargers) may be used without a PAT, at the user's own risk. However, any items that will remain on site for an extended period (e.g., coffee machines) **must** have a valid PAT.

**All** mains powered items transferred on site should be checked for obvious damage to cables or plugs before turning on. Should any damage be found, it must be passed for repair and receive a PAT before being used again- this overrules any of the exceptions above.

PAT responsibility for equipment held in common by research collaborations across multiple UK institutions/companies should be agreed **in writing**. Should any such equipment be received without a valid PAT, by default the responsibility will fall on EEE staff to arrange testing prior to use. Equipment received/returned from outside the UK must **always** receive a new PAT on arrival.

**IMPORTANT:** Any **constructed** mains powered equipment should also be tested and have a valid PAT before regular use. Note the construction and testing of such equipment must take place in laboratories **only**; any found in offices may be turned off and confiscated without notice.

### 2) Hazardous chemicals

No hazardous chemicals are to be purchased unless an authorised CoSHH assessment (Control of substances hazardous to health) has been prepared for the proposed work involving those chemicals.

When received, chemicals must be kept in a secure laboratory environment, and unpacked and transferred to appropriate storage as soon as possible. They should not be left in their transport packaging. The storage or secondary container they are transferred into must have the appropriate hazard labelling. **They must never be kept in offices at any time.**

Staff and students who are planning new work using hazardous substances should discuss this with the Lab Safety Co-ordinator for the proposed work location **before** ordering any materials.

Care should be taken to also consider the chemical products of the proposed process, and ensure the hazards and controls associated with these new products have also been assessed. Products that are

retained, including any small quantities retained as research samples, must be clearly labelled, and treated just like any other hazardous chemical in all respects. They must be stored appropriately: **never in offices.**

**Any hazardous materials found without a supporting CoSHH assessment, without a clear owner, or stored inappropriately will be confiscated and immediately disposed of.**

From academic year 2023/24 onwards, common stock chemicals will be purchased centrally by the Department. Research teams will be able to pick up limited local stocks for lab use, free at the point of need (be charged back for usage later). No individual purchases of these chemicals against research budgets will then be permitted:

- Hydrogen peroxide above 12% (w/v)
- Nitric acid above 3% (w/v)
- Concentrated Sulphuric acid.
- Toluene
- Ammonia above 10% (w/v)
- Hydrochloric acid above 10% (w/v)
- Potassium Hydroxide solids
- Sodium Hydroxide solids
- IMS & pure Ethanol
- Methanol
- Propanol
- Acetone

Certain chemicals are reportable under the Control of Poisons and Explosives Precursors Regulations 2015. Staff or students wishing to use these chemicals must discuss their use with the Chemical Safety Officer before purchasing or transferring to the department. Lab Safety Coordinators should check against this list for new work involving chemicals and refer to the Chemical Safety Officer as necessary. The full list may be found at [by following this link.](#)

A number of chemicals are also monitored as drug precursors (see table on the next page). In these cases, usage of these materials **must** be always tracked and accounted for. Department usage of these materials is regularly audited by Safety Services. Note, the chemicals in regular use by EEE that fall on this list (bold\*) will be centrally managed from 23/24 onwards.

<i>Drug Precursor - Category 2 substances</i>	<i>Drug Precursor - Category 3 substances</i>
Acetic anhydride	<b>Acetone*</b>
Phenylacetic acid	Ethyl ether
Anthranilic acid	Methyl ethyl ketone
Piperidine	<b>Toluene*</b>
Potassium permanganate	<b>Sulphuric acid*</b>
	<b>Hydrochloric acid*</b>

### 3) New laser systems

All Class 3R, 3B and 4 lasers must be registered with the University Laser Protection Officer (ULPO) by completing the UCL laser registration form and added to the Department's Artificial Optical Radiation Inventory managed by the Department Laser Safety Officer (LSO).

This includes equipment on short term loan or brought by visitors. It does not include equipment brought on site and used only by service engineers/contractors.

The LSO must be informed of any purchase or transfer of class 3R, 3B and 4 lasers **before the order has been placed or any equipment has been transferred.**

An approved laser risk assessment and scheme of work document must be available for the work before any new laser is brought on site, and the proposed location must have a suitable laser management and training system in place prior to the laser being installed.

Remember if new laser work is planned- work either substantially different from existing work in a laser area, or proposed in an area that is not currently a laser area- the LSO must be informed at the earliest stage (before any proposal for funding is submitted!!).

**Class 3 and 4 laser systems found on site without registration/prior notice will be considered under the disciplinary policy.**

#### **Laser systems constructed on site.**

The controls above cover laser systems **not** laser *components*. For example, a laser diode component does **not** count as a laser system until it has been assembled in a set-up and wired to a suitable laser driver. Laser registration in such cases should take place at the planning stage for the assembled set up; it is not necessary to register all laser components at the purchase stage.

Like any other class 3 or 4 laser systems, any found assembled on site without registration **will be considered under the disciplinary policy**. Contact the Department Laser Safety Officer (LSO) for further advice.

#### **Effective Class 1 enclosed laser systems**

Some equipment includes what would normally be class 3 and 4 laser systems, but they are incorporated into sealed or interlocked enclosures that are certified by the manufacturer as effective class 1, as the laser beam is never accessible to the user.

These items do not need to be registered, however, if you wish to purchase or loan this type of equipment you **must** seek advice from the LSO at the planning stage, as certain safety control measures and procedures will still be required.

### 4) New X-ray equipment

The purchase of any X-ray generating equipment **must** be approved by the University Radiation Protection Officer (RPO) before an order is raised. Colleagues planning such work must first discuss the research need with the Department Radiation Protection Supervisor (RPS), who will seek approval on their behalf with the RPO.

A radiation risk assessment and set of local rules must be signed off by the RPS before any purchase is made.

Equipment purchased without permission will be refused delivery and returned to the supplier, with all costs falling on the purchasing account.

**X-ray equipment found on site without permission will be considered under the disciplinary policy.**

**Constructing equipment for the express purpose of producing X-rays is strictly prohibited.** Any work that may produce incidental X-rays (very high voltages in vacuum equipment) should be referred to the RPS at the planning stages.

5) Receiving or purchasing any sealed or unsealed ionising radiation sources is strictly prohibited.

Professor Sarah Spurgeon, Head of Department

Signature 

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