

## OPERATIONAL GUIDANCE FOR TENANTS AT PORTON SCIENCE PARK (PSP)

### 1. Purpose

The purpose of this document is to identify and define the parameters of PSP's Safety, Health, Environmental and Fire (SHEF) policy to guide and support PSP's laboratory tenants' operations and business continuity.

### 2. Scope

Whilst this document focuses on safe laboratory practices, it offers guidance to all PSP tenants, visitors and contractors.

### 3. Responsibilities

It is requested of those occupying/visiting PSP that all tenants, visitors and contractors are required to comply with all applicable SHEF legislation and the arrangements set out in this document.

### 4. Business Continuity

Wiltshire Council outlines the plans it has in place to respond to a major incident at PSP via the **Porton Down Science Campus Off-site Plan** which is a separate document and available in PSP Intranet - and PSP tenants' plans should integrate with these as much as possible.

PSP tenants are responsible for their own business continuity plans to provide and support their accommodation and the business activities they carry out at PSP although PSP's Site Manager is available to advise further on this where applicable.

The Site Manager will be the point of contact for alerts and updates from Dstl (PSP's Landlord) especially with regard to closure of the science campus due to adverse weather or a major incident during and outside of core hours or over a weekend and this information will be communicated to tenant Company Heads by the Site Manager for cascading down to tenants' respective staff, visitors and contractors.

### 5. Smoking on Site

Wiltshire Council mandates that all of its buildings and sites across its estate are smoke and vapour-free with the exception of designated external smoking areas provided on each site.

Effective from **1<sup>st</sup> October 2019**, PSP was designated a "Smokefree site" by Wiltshire Council and notice of this development was informed by email to all tenants at PSP on Wed 24/07/2019 13:34

Smoking will not be permitted at PSP and the current smoking area by the Visitors Car Park will serve as the vaping area.

### 6. First Aid

In overview, Wiltshire Council's First Aid Policy is that the provision of first aid training and equipment for PSP is based on an assessment of the risks and hazards within the building. This assessment integrates with PSP's Emergency Evacuation Procedures document which has been shared with PSP tenants.

Wiltshire Council's First Aid Policy is available from the Site Manager. Tenants are advised to treat this as guidance and to apply it as far as it is compatible with their own first aid policy.

Tenant First Aid staff are informed to the Site Manager only and any updates you are willing to share regarding first aid qualifications can be informed to the Site Manager.

Neither Wiltshire Council, nor the campus organisations (Dstl, PHE and PBL), provide emergency cover for PSP – therefore, should emergency hospital treatment be required for any PSP or tenant staff, an ambulance should be requested to attend PSP by dialling 999.

A Building A tenant supplied defibrillator is located in the ground floor mailbox lobby for use by tenant First Aiders for a medical emergency relating to respective tenant staff.

## **7. Accident and Incident Reporting**

Tenants and contractors are required to report all accidents, incidents and near misses within tenant demises and in communal areas to the Site Manager. These can be reported verbally to the Site Manager for urgent alert or electronically via the monthly SHEF sheet including "NIL" return at the end of each month (for the previous month) using the previously issued reporting sheet.

All serious accidents, near misses and incidents (e.g. RIDDOR reportable or requiring hospital treatment) should be reported immediately to the Health and Safety Executive (HSE) as well as to the Site Manager as soon as possible. (see <http://www.hse.gov.uk/riddor>)

Potential hazards (slip, trip etc.) should have warning signs placed around them and be reported immediately to the Site Manager.

## **8. SHEF (Safety, Health, Environmental and Fire) Notices**

Notices advising on SHEF issues and updates will be issued to tenants by the Site Manager for use as information and guidance. These notices may not themselves be mandatory but the procedures and regulations to which they refer might be. Where mandatory requirements are to be communicated via these SHEF notices, this will be clearly identified.

## **9. SHEF training**

Tenants and contractors must ensure that adequate SHEF and task training is provided to all those working within their laboratories at PSP. The level and content of any training provided should be determined from process and workplace risk assessments to also be reviewed periodically in accordance with tenants' current procedures within respective laboratories.

## **10. Road Traffic at PSP**

Although not part of the public highway, it is Wiltshire Council policy that the Road Traffic Act applies to PSP roadways. Road layout, markings and signage is as far as possible to the same standard as on public roads and persons in control of vehicles are expected to drive and park their vehicles to this standard.

**Please note, the speed limit on PSP's roadways is 10mph.**

PSP tenants' vehicles should be parked in designated parking bays and as allocated by the Site Manager or, in the case of visitors and contractors, in the Visitors Car Park now indicated by directional signage upon entry onto Bybrook Road from Manor Farm Road.

PSP tenants are welcome to avail respective allocated parking to their visitors and contractors if their bays are available.

## **11. Safety Briefing for Visitors and Tenant Contractors**

Prior to entering PSP, all tenant visitors and contractors will be required to be:

- collected by their host from a main entrance
- briefed by their host on any specific hazards in the area that they are visiting - they will only be allowed access to the specific office and/or lab in the zone that their host occupies
- made aware of fire safety - e.g. emergency evacuation procedures as well as weekly scheduled fire and intruder alarm testing.

## **12. Tenant Contractors Work Access and Permits**

Where access to a specific area is restricted due to health, safety, security or commercial sensitivity, a works access permit may need to be issued by the tenant company.

This is to ensure the work can proceed as agreed between the workplace supervisor and those requiring access to carry

out works. If the work is considered to expose the contractor to any risk, the contractor may also request that a work access permit is issued by the tenant to show that all risks have been assessed, controlled or eliminated.

A Risk Assessment Method Statement (RAMS) for proposed work by contractors should be made available to the Site Manager.

For any works requiring the isolation of centrally supplied utilities or services (gases, electricity, fire alarm, heating, telephone and internet, water etc.) and/or for hot works, tenants must complete a permit form which is available in PSP Intranet.

The Site Manager also requires receipt of requests for the isolation of utilities, services and hot works in writing and by email for PSP's records.

Tenant contractor works within a tenant's demise must be attended by the respective tenant at all times and must be carried out during core office hours – 8.30am to 5.30pm

Tenant works out of hours, on weekends and bank holidays are not permitted – if unavoidable, this must be informed in writing to the Site Manager for assessment and authorisation.

### **13. Ground Piercing, Digging and Excavation Operations**

No tenant or its contractor is permitted to carry out excavations, digging and ground-piercing activities at PSP.

If a dig is required, a dig permit must be applied for via the Site Manager for onward notification and approval by Wiltshire Council and PSP's Landlord, Dstl, bearing in mind that the latter may require Dstl dig wardens to attend the works which may then be subject to recharge for Dstl's supervisory attendance.

### **14. Building Work**

No tenant or its contractor is not permitted to undertake building works or structural alterations to any existing part of PSP's building without prior permission from Wiltshire Council.

Should a laboratory already fitted out for use by a respective tenant require further alterations (rerouting of PSP supplied M & E services, shelf fitting or wall mountings etc.) permission for any new works should be made in writing to also include drawings and scope of works for prior notification and approval by Wiltshire Council through the Site Manager.

### **15. Asbestos**

No asbestos-containing materials have been used in the construction of any part of Building A.  
The use of asbestos in any form for additional works by tenants is prohibited.

### **16. Water Hygiene**

Wiltshire Council is responsible for ensuring that a suitable and sufficient water hygiene risk assessment has been carried out to identify and assess the risk of exposure to legionella bacteria from work activities and water systems across PSP. Ongoing monitoring and precautionary measures are regularly carried monthly by PSP's current water hygiene contractor, TWS Plumbing and Heating, and according to HSE guidelines.

### **17. Utilities**

Utilities (water and electricity) and currently supplied by PSP's Landlord, Dstl, are essential for the effective and efficient operation of PSP's office and laboratory activities. However, failure to control the consumption of these utilities could have an adverse impact on provision to other tenants and both resources have direct and indirect impact on the local environment.

All tenants are required to cooperate with the efficient use of these utilities. Any requirement for an increased supply of these utilities must be discussed for assessment and for prior approval from the Site Manager on behalf of Wiltshire Council.

PSP provides a 350 kVA auto start generator to support continuous electricity supply in the event of planned or

unplanned power outage.

#### **18. Environmental Risks**

Tenants and their contractors must identify any environmental hazards and risks associated with their activities and/or works that they experience to ensure suitable and sufficient controls are in place to eliminate or reduce any risk to an acceptable level.

Incidents relating to the building's communal areas must be immediately alerted to the Site Manager as well as recorded on the monthly SHEF sheet for the Site Manager's update of PSP's records.

#### **19. Environmental Enquiries and Complaints**

Any enquiry or complaint about environmental issues arising from the use, activity or operation from any individual or organisation (including all tenants at PSP) must be recorded and reported (including, where possible, a record of the date/time of the enquiry or complaint, the parties involved, a description the nature of the environmental issue and such other details as are pertinent) as soon as possible to the Site Manager who share the details with PSP's Heads of Service at Wiltshire Council for resolution.

At no time should any enquiry or complaint be discussed with any other person other than with the Site Manager for Wiltshire Council, or its authorised officers; and in particular, any discussions with the Media are strictly prohibited and any approaches from the Media should be directed to the Site Manager in the first instance.

#### **20. Silent Hours and Lone Working**

Silent hours at PSP are regarded as from 5.30pm to 8.30am the following morning on weekdays.

All tenants and their staff intending to work in laboratories and offices at weekends or on bank holidays and during silent hours (and especially as lone workers) are required to have in place appropriate procedure for Health and Safety purposes.

PSP's Lone Working guidance is available in PSP Intranet.

#### **21. Children and Young Persons at PSP**

Young persons under 16 years old are not allowed into the building(s) on the science park site without the express written permission of the Site Manager.

Wiltshire Council/PSP recognises the opportunity to offer work experience to students under the age of 16 – typically in the academic years, Year 10 and/or Year 11.

Where a young person, age 16 or 17, is to carry out work at PSP for work experience, a written risk assessment and control strategy must be completed to ensure that all reasonable steps to protect the young person's health and safety have been taken before facilitating the opportunity. In such cases, it is recommended that the young person's parent(s) and/or legal guardian agree and countersign the risk assessment before the work commences.

The Management of Health and Safety at Work Regulations 1999 (<http://www.legislation.gov.uk/ukxi/1999/3242/contents/made>) state that a child may not during work experience undertake work which:

- is beyond their physical or psychological capacity
- involves exposure to toxic or carcinogenic substances
- involves harmful exposure to radiation
- involves a risk of accidents which young persons may not reasonably recognise due to their insufficient attention to safety or lack of experience or training
- involves a risk to health from extreme temperatures, noise or vibration

For other 'lower-level' work, currently Wiltshire Council has not identified reasons to prohibit PSP's tenants offering work experience to those under the age of 16.

All employers at PSP should be confident of their staff's background before allowing anyone under the age of 18 to come in for work experience within their company. Wiltshire Council alerts all PSP's tenants on its guidance on DBS checks as follows:

- anyone at PSP who will be supervising a minor on work experience will be required to have an Enhanced DBS Check if the child on work experience is under the age of 18 and the supervisor will need to spend every day or long periods of time alone with the child
- any employer who knowingly admits an adult on either the DBS Adult's Barred List or DBS Children's Barred List to have regular contact and/or activity with the minor is committing an offence

## **22. Accessibility for Special Needs**

Tenants must review their workplaces to take into account any staff or visitors or its contractors who may have special needs. Disabled access assessments have been carried out across all Wiltshire Council sites looking at common areas for compliance with the current legislation. Further advice can be sought from the Centre Manager.

## **23. Drugs and Alcohol**

Anyone found, or reasonably suspected of being unduly under the influence of alcohol or illicit drugs, will not be allowed to enter PSP. If they attempt to do so and refuse to leave, the campus' MDP and/or Wiltshire Police will be called to remove the individual (s) from the site.

## **24. Site Security**

PSP is sited on and is part of the Porton Down Science Campus but does not have the same level of restricted entry as the other organisations on the campus. As such, in view of PSP's location on the Porton Down Science Campus, its presence alone may attract untoward attention from those opposed to Porton Down generally and its perceived activities and may become a target for hostilities. However, the current building is fitted with an intruder alarm together with a panic button located in the Site Manager's office which is linked for activation to sound a roof mounted klaxon to alert the MDP on the Dstl site.

During core working hours on week days, i.e. 8.30am to 5.30pm, outside core hours and all day on weekends and on bank holidays, the MDP patrols undertake continuous surveillance of PSP and its grounds which are supplemented by PSP's CCTV monitoring of key installations and entry points into the building 24/7.

If a suspicious package is received, the Site Manager requests that you warn all others in your vicinity and not to move or touch it.

Move yourself and all others away from the package to a safe area and try to seal off the area to prevent others approaching it.

To report an incident, please call the civilian police (999) followed by the MDP (emergency number 01980 954444) giving them your name and contact number, details of the exact location of the incident, what you saw or heard to make you suspicious, any hazards in the area and a route to access the incident.

Tell them if there any casualties, what action you have taken and what additional emergency services might be required to attend.

On the advice of the responding police, please evacuate to the Emergency Assembly Point by the Visitors Car Park or as directed by the police.

If you identified the incident, meet and brief the police with the Site Manager if he or she is on site at the time of your reporting.

In the event of a threat of violence, both the civilian police (999) and the MDP should be called (emergency number 01980 954444) and if possible, giving details of the number of assailants along with their description and their location; the type of threat (whether weapons are being used) and, if so, the type of weapon; any vehicles being used (type and registration number); and your name and contact details.

- You should lock yourself in a safe area, away from doors and windows and prepare to wait for some time.
- If confronted by a police dog:
  - don't panic
  - don't attempt to touch or pet the dog
  - don't start to scream or shout
  - do try to remain calm
  - do avoid eye contact with the dog
  - do comply with the instructions of the dog handler
- If, during an incident, you are confronted by armed police, MDP or the TSG (Territorial Support Group; a specialist uniformed Crime & Operations unit of London's Metropolitan Police Service):
  - don't panic
  - raise your hands in the air, clear of your body or clothing
  - obey the officer's(s') instructions
  - you may be handcuffed

## **25. Waste Management**

Tenants, as waste producers, must exercise their duty of care when disposing of non-hazardous waste. Tenants are responsible for ensuring that non-hazardous waste generated from their activities is disposed of safely and appropriately whether this is on site (in the PSP's bin store) or off site at a Household Recycling Centre e.g. Amesbury or Salisbury.

**Tenants' contractors are forbidden to dispose of the waste from their works in PSP's bin store.**

Works waste must be removed from PSP to be disposed of at the appropriate and licenced waste collection facility by the respective tenant's contractor.

For tenant-generated waste:

- general office-type waste (having been segregated from dry mixed recyclables) should first be placed in black bin bags and then tied and then into either of the two, 1100L general waste bins
- dry mixed recyclable waste (e.g. cardboard – must be flattened first - paper, plastic bottles and tin cans) should be placed in the green 1100L waste bin

For lab operators' hazardous waste, it is the tenant's duty to dispose of such waste in the correct manner (and double bagged) in their lockable yellow hazardous waste bin (or by pre-arranged hazardous waste collection) according to Environment Agency regulations:

- laboratory tenants disposing of chemical hazardous waste must arrange access for their provider to their own specified waste store(s) where containers for appropriate disposal and consignment notes used for disposal. The Site Manager must also be informed of these arrangements
- any disposal into PSP's drains of chemicals or other hazardous material arising from laboratory activities is strictly prohibited unless prior written approval is obtained from Wiltshire Council through the Site Manager

## **26. Risk Assessments**

PSP tenants are required to have risk assessments in place to cover and mitigate the risks arising from their activities. These risk assessments must be "suitable and sufficient" to ensure all risks to everyone and the environment are eliminated or suitably controlled where this is not possible.

For contractors' works at the science park, the Site Manager will need to inspect the assessment documents (hot

works, building fabric alterations and effect on electricity supply) before the works starts and also ensure that sufficient insurance cover is provided.

Tenants must disclose to the Site Manager all relevant information about a hazard(s) which they may have and which may impact on and beyond the areas they occupy. This documentation should identify the significant site-wide risks that may affect PSP. Should other PSP occupants be at risk from the hazard(s), this information will be communicated to other tenants by the Site Manager.

## **27. Potentially Hazardous Work**

PSP tenants must obtain all legally-required licenses, permits, consents or approval from appropriate authorities before starting work on projects that would require such permission.

Many of the following instances of potentially hazardous work fall under HSE Control of Substances Hazardous to Health (COSHH) Regulations 2002 (see <http://www.hse.gov.uk/coshh/>).

Tenants must also comply with regulation(s) and other legislation, with risk assessments and control measures in place to prevent or reduce exposure to hazardous substances or procedures.

In addition, all doors leading to workplaces where hazardous procedures are undertaken, or hazardous substance held and used, must be labelled with appropriate warning signs; these are shown in Appendix A of this document.

### **27.1 Compressed Gases**

Tenants must ensure that all cylinder-fed compressed gas systems are operated and maintained in a safe condition.

Where gas bottles / cylinders need to be transported to and from and used in a laboratory, this must be done using correct and appropriate transport equipment with the vessels fastened securely in whilst they are in a laboratory.

Where gas is piped in from a gas store unit, the owner of the pressure system (i.e. the tenant or its supplier of the gas cylinders and the owner of the pipework (PSP) must ensure the following:

- a suitable examination scheme is drawn up and is in place; that the system is certified by a licensed inspector
- any modifications are carried out to installation are according to HSE regulations
- the system is properly tested and commissioned and up to date maintenance records held

In PSP's active gas store, lab tenants are responsible for the safe storage and safe usage (including the reporting of faults and any requirements for pressure regulator replacement to their respective supplier) of their respective gas cylinders. Pressure regulators and flashback arrestors should be considered for replacement/ refurbishment after 5 years or in accordance with the manufacturer's recommendation. Each regulator should be considered individually and changed as required.

Dates for the next inspection should be informed to the Centre Manager for PSP's records with a copy of the inspection schedule kept in the gas store.

This agreement and associated records and documentation must be lodged with the PSP Centre Manager.

In all cases, whether a free-standing cylinder is used or the gas is piped in, the tenant as the licensee, is to ensure the pressure system is used according to the manufacturer's operating instructions and that the connected cylinders should **not** be operated:

- unless the safe operating limits have been established
- after the date of the next due examination (specified on a label attached to the system)
- if specified repairs or modifications have not been carried out by the date given in any examination report
- if an examination report is received from a licensed inspector stating that there is imminent danger unless specified repairs and modifications or changes to the operating conditions are made

If any current or incoming lab tenant wants to bring in a new or different gas supply, the additional gas would need to be assessed for consideration of those gases currently in the store per the following:

- UK legislation requires that a site-specific risk assessment for each gas cylinder store is undertaken in accordance with the Management of Health and Safety at Work Regulations and the Dangerous Substance and Explosive Atmospheres Regulations (DSEAR)
- it may be (and depending upon the volume of a new gas is proposed) that a certain threshold has been reached and additional consent is required from Wiltshire Council under the planning (Hazardous Substances) regulations.

To accommodate the introduction of additional gas cylinder installation and piped supply, PSP has a second gas store in the recess on the East side of the building.

## **27.2 Pressure Equipment and Systems**

All pressure equipment and systems should be properly maintained with a maintenance programme in place to take into account the system and equipment age, its uses and the environment. In addition there should be ongoing in-house inspections looking for signs of wear or corrosion and tell-tale indicators of problems, e.g. safety valves repeatedly discharging, indicating that either the system is over-pressurising or the safety valve is not working correctly.

Under the Pressure Systems Safety Regulations 2000, ([www.hse.gov.uk/pubns/priced/l122.pdf](http://www.hse.gov.uk/pubns/priced/l122.pdf)) a written scheme of examination is required for most pressure systems. Exempted systems are listed in the regulations but generally speaking, only very small systems are exempted.

Because of the risk of damage to the building, tenants using pressure equipment and systems must notify their insurers of this and ensure that adequate insurance is place to cover any possible damage.

If pressurised equipment fails during use, it can seriously injure or kill those nearby and cause serious damage to property.

The Health and Safety Executive (HSE) has produced a brief guide to safety ([www.hse.gov.uk/pubns/indg261.pdf](http://www.hse.gov.uk/pubns/indg261.pdf)) describing what employers need to do to minimise the risks when working with systems or equipment which contain a liquid or gas under pressure.

This guidance does not cover gas cylinders / bottles (now called transportable pressure receptacles or transportable pressure vessels) or tanks and tank containers. With regard to PSP laboratory tenants, the main types of pressure systems and equipment to be encountered are the pipework and hoses for the supply of specialised laboratory gases, and pressure cookers and autoclaves.

The main hazards from the failure of such equipment are the impact from the blast of the explosion, or release of compressed liquid or gas, and from flying debris. In addition, in the case of autoclaves and pressure cookers, there is the danger associated with scalding from the released steam. Fitted, protective devices such as safety valves and bursting discs should discharge to a safe place.

## **27.3 Asphyxiating Gases**

Asphyxiating gases are usually relatively inert odourless, colourless and tasteless and their presence in high concentration may not be noticed, except in the case of carbon dioxide where abnormally elevated CO<sub>2</sub> levels in the blood causes hypercapnia also known as hypercarbia and CO<sub>2</sub> retention.

Most asphyxiating gases are usually undetectable and can therefore be as dangerous as toxic gases such as chlorine, ammonia or hydrogen sulphide, which can be detected by their odour at very low concentrations.



Oxygen depletion can arise from the use of compressed gases from cylinders or pipelines, or from the vaporisation of liquefied gases. It should be borne in mind that cryogenic fluids such as liquid helium or liquid nitrogen, once vaporised will generate a large volume of cold inert gas e.g. 1 litre of liquid nitrogen will yield 680 litres of cold gas that will displace ambient air, causing oxygen deficiency and may accumulate in low points rapidly causing asphyxiation and death should the operator faint.

Storing dry ice in confined spaces and transporting in lifts is also potentially hazardous so please apply a duty of care when handling and disposing.

#### **27.4 Cryogenic Substances**

These include liquefied gases (usually nitrogen and helium) and solid carbon dioxide.

In addition to the risk of asphyxiation (see above, Section 28.3), inappropriate handling of these substances can give rise to cold burns leading to serious injury.

In the case of liquefied gases, correct vessels must be used for their storage and transport and they must clearly labelled showing basic safety-related information. Most vessels are designed not to be sealed and must be kept free of obstruction (e.g. ice) to prevent pressurisation. Their outlets may be loosely covered but never stoppered. Those which are sealed should have a pressure-relief valve and all types of these vessels must be maintained and in good condition.

Dry ice presents similar hazards to cryogenic liquids with exposure to skin causing cold burns and frost bite. However, being a solid it does not flow and so is less hazardous.

### **27.5 Explosives and High Energy Materials**

The storage, handling and use of explosives and of substantial quantities of other highly energetic materials within PSP is not currently permitted.

### **27.6 Lasers**

Tenants and contractors wishing to use lasers of class 1M, 2M, 3R, 3B or 4 must understand the associated risks and be competent to safely manage and carry out the work.

### **27.7 Ionising Radiation Sources**

These include sealed radioactive sources, open radioactive sources and X-ray and neutron generators.

Further information on new legislation which came into effect in January 2018 can be accessed from HSE: "Work with ionising radiation: Ionising Radiations Regulations 2017 Approved Code of Practice and Guidance" (<http://www.hse.gov.uk/pubns/ priced/ l121.pdf>).

### **27.8 Chemicals**

The most important legislation applicable for chemicals is the Control of Substances Hazardous to Health Regulations 2002 (COSHH) which provide the major framework for control of the hazards (<http://www.hse.gov.uk/coshh/>).

All work with chemicals which are hazardous to health must be described and detailed as part of the lab tenant's Health and Safety risk assessment.

Suitable storage arrangements must be in place for the storage of chemicals and other hazardous materials.

The inventory should be part of the tenant's risk assessment which should be made available to PSP's Centre Manager.

Where commercial confidentiality is required, the list of chemicals in the risk assessment submitted to the Centre Manager may include generic descriptions of the chemicals e.g. "specific non-hazardous sugar" but quantities and hazard categories and how and where they are stored should be stated.

All hazardous substances should be labelled with the appropriate GHS pictogram(s), but older material (pre-2015) may have the CHIP pictogram (see Appendix B).

### **27.9 Flammable Substances**

In addition to specific chemicals, these include other substances such as solvents, paints, varnishes, flammable gases such as butane and liquid petroleum gas (LPG), dusts from machining and sanding operations, dusts from foodstuffs e.g. flour, pressurised gases and substances corrosive to metal which might release hydrogen.

These materials must be covered in assessment of both storage and use of hazardous materials as briefly mentioned in the above section (Section 28.8).

The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR), available at <http://www.hse.gov.uk/fireandexplosion/dsear-regulations.htm>, require risks from the indoor storage of dangerous substances to be controlled by elimination or by minimising the quantities of these substances in the workplace and providing mitigating measures to protect against potential incidents.

It is recognised that whilst there is likely to be a need for a limited quantity to be stored in the laboratory working area, it is the responsibility of the tenant when carrying out their risk assessment required under DSEAR Regulation 5 to justify the need to store any particular quantity of flammable substance in the laboratory.

The guiding principle is that only the minimum quantity needed for frequently occurring activities or that required for use during half a day should be present in the laboratory working area.

Flammable substances should be stored separately from other dangerous substances that may enhance the risk of fire or compromise the integrity of the container or cabinet/bin; for example energetic substances, oxidizers and corrosive materials.

It is recognised that the latter substances may in their own right be flammable or held in flammable liquids. However, these should not be stored in the same cabinets or bins alongside other flammable substances.

HSE and RSC offer similar recommendations for the storage of flammable liquids in laboratories:

#### **HSE:**

It is recommended that the maximum quantities that may be stored in cabinets and bins are no more than 50 litres of extremely, highly flammable and those flammable liquids with a flashpoint below the maximum ambient temperature of the workroom/working area; and no more than 250 litres for other flammable liquids with a flashpoint up to 55 degrees C.

#### **RSC:**

In principle, you should limit the storage of flammable liquids in a work area or laboratory and the best practice guidance gives less than 50L of highly flammable materials, and less than 250L of flammable materials.

The amount will vary according to factors such as the size of the room. It is good practice to conduct a risk assessment for storage of flammable materials in the work area.

For the storage of small quantities of flammable liquids, the risk is reduced if flammable liquids are stored in quantities of not more than 500mls nominal capacity because of the extent of accidental spillage.

Containers should be kept tightly sealed and if used on the bench placed in a spill tray.

Definitions of 'flammable liquids' and 'highly flammable liquids' are given by HSE and DSEAR\*.

These are generally based on flash points - for example hexane is a highly flammable liquid and diethyl benzene is a flammable liquid.

DSEAR requires employers to control the risks to safety from fire, explosions and substances corrosive to metals. Details and links can be found on the HSE website.

*\*The Dangerous Substances and Explosive Atmospheres Regulations 2002*

### **27.10 Biological Materials, Biological Agents and Genetically Modified Organisms (GMOs)**

PSP tenants are not permitted to use the premises for the keeping, storage or research on live or dead animals other than tissue samples.

Tissue samples may present a range of hazards which include infection by adventitious biological agents, sensitisation and environmental damage.

Biological agents include the general class of micro-organisms (virus, bacteria, fungi, yeast, etc.) cell cultures and human endoparasites and have been classified into four hazard groups ranging from Group 1 (unlikely to cause human disease) through to Group 4 (can cause severe human disease, is likely to spread to the community and for which no effective prophylaxis or treatment available).

The biological agents must be handled under containment levels appropriate to their group, ranging from CL1 to CL4.

PSP lab operators are restricted to CL2 (or lower) work. This level of containment requires that procedures

producing infectious aerosols should be conducted in a microbiological safety cabinet.

## **28. Electrical Safety of Portable Equipment**

Portable appliance testing (PAT) is the term used to describe the examination of those electrical appliances and equipment that are plugged into a mains socket to ensure they are safe to use.

Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing by a qualified electrician with specialised equipment. Nevertheless, routine (daily in many cases) visual examination is an essential part of the process because some types of electrical safety defect cannot be detected by testing alone.

Before using electrical equipment, the person intending to use it should check for signs that it may not be safe to use, for example:

- damage (apart from light scuffing) to the supply cable, including fraying or cuts
- damage to the plug or connector, e.g. a cracked casing or bent or loose pins
- inadequate connections and joints in the cable, including taped joints
- where the outer sheath of the cable is not effectively secured where it enters the plug or the equipment (e.g. if the coloured insulation of the internal cable cores is visible)
- where the equipment has been exposed to conditions for which it is not suitable, e.g. it is wet or excessively contaminated
- damage to the external casing of the equipment
- loose parts or screws
- evidence of overheating (burn marks or discolouration)

These checks should also apply to extension leads, plugs and sockets.

It is a commonly held myth that all portable electrical equipment should be tested annually to have a sticker applied in evidence of the test. However, the Electricity at Work Regulations 1989 only require that any electrical equipment that has the potential to cause injury is maintained in a safe condition.

The regulations do not specify what needs to be done, by whom or how frequently i.e. they do not make inspection or testing of electrical appliances a legal requirement, nor do they make it a legal requirement to undertake this annually.

Nevertheless, employers have a duty of care to their employees to organise inspections and official testing to be carried out.

In addition all PSP tenants are bound by the conditions of their lease to maintain all machinery and equipment they bring into their demise are properly maintained and are in a safe condition.

A useful guide to the frequency of testing is given by the HSE in its document, "Maintaining Portable Electrical Equipment" at <http://www.hse.gov.uk/pubns/priced/hsg107.pdf>.

All equipment provided by PSP in the common areas is tested to these guidelines and should have attached stickers to show this.

## **29. Fire Safety**

PSP as a building will undergo Fire Risk Assessments (FRA) performed at regular intervals. Wiltshire Council is committed to ensuring that any actions arising from FRA are dealt with in a timely manner.

Building A's most recent FRA was carried out June 2021.

All tenants should also undertake fire risk assessments of their own demise to identify what could cause a fire, i.e. sources of ignition (heat or sparks) and substances that burn and who and what may be at risk.

Once the risks have been identified, appropriate action should be taken to avoid, control and reduce them.

The key points here are:

- keeping sources of ignition, oxidising agents and flammable substances apart
- using only essential (i.e. minimal) quantities of flammable substances
- avoiding accidental fires, e.g. make sure heaters cannot be knocked over
- ensuring good housekeeping, e.g. avoiding a build-up of rubbish that could burn
- having the correct fire-fighting equipment to hand for extinguishing a fire quickly
- keeping fire exits and escape routes clearly marked and unobstructed at all times
- ensuring all staff under your control receive appropriate training on procedures they need to follow, including fire drills
- reviewing and updating the risk assessment regularly

Fire alarm audibility testing at PSP takes place weekly and emergency evacuation practice on a six-monthly basis.

External contractors carry out heat-rise and smoke testing to the sensors and service the fire alarm system on a scheduled basis under PSP's planned preventative maintenance (PPM) scheme.

In the event that a fire is discovered, the first thing should be to sound the alarm at the nearest call point to evacuate the building.

Call 999 to report the fire.

Only then, if it safe to do so, should the fire be tackled using the appropriate portable extinguishers.

On hearing the fire alarm or if you cannot put out the fire or the extinguisher becomes empty, leave the building immediately and help others to also evacuate the building, closing all doors and windows behind you as you go. Please check again that the fire brigade has been called – dial 999 - which may also offer an update for the ETA for emergency attendance at PSP.

## Appendix A: Safety Signage

### Safe Condition



Emergency Shower



Emergency Exit



Drinking Water



First Aid

### Warning Signs



Compressed gas



Laser hazard



Radiation hazard



Cryogenic hazard



Bio hazard



Toxic hazard



Magnetic hazard

### Prohibition Signs



No smoking



No access for people with active cardiac implants



No entry



No metals or watches

### Mandatory Signs – must follow instruction



Eye protection must be worn



Respiratory Protection must be worn


















Hand Protection must be worn



## Appendix B: Labelling of Hazardous Substances

All hazardous substance should be labelled with the appropriate GHS pictogram(s)  
but older material (pre-2015) may have the CHIP pictogram

	GHS Pictogram	CHiP Pictogram (replaced by GHS in 2015)
Unstable, Explosive		
Flammable		
Oxidising		
Compressed Gas		No equivalent symbol
Corrosive		
Toxic		
Irritant		
Health Hazard		
Environmental Hazard	