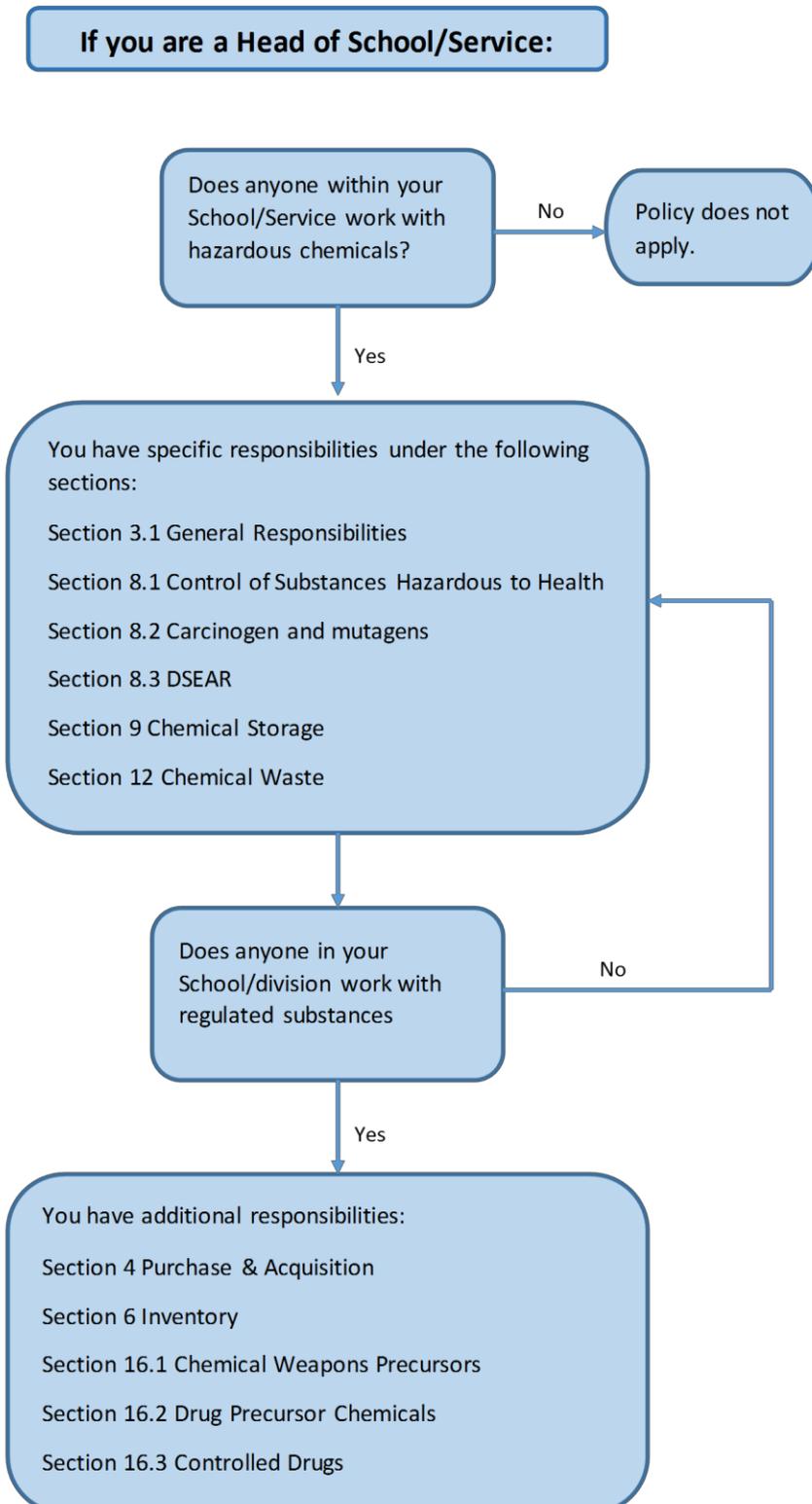
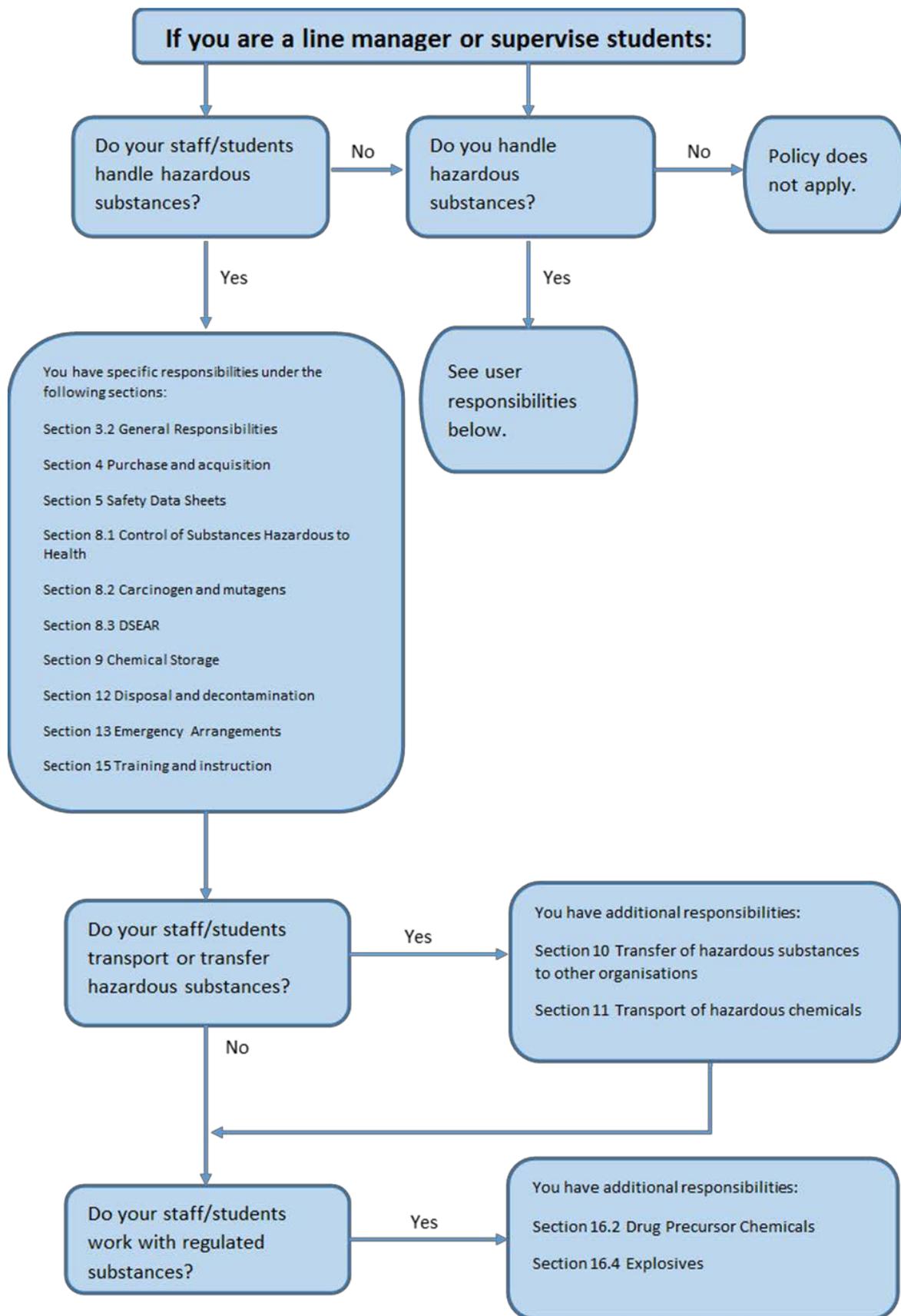
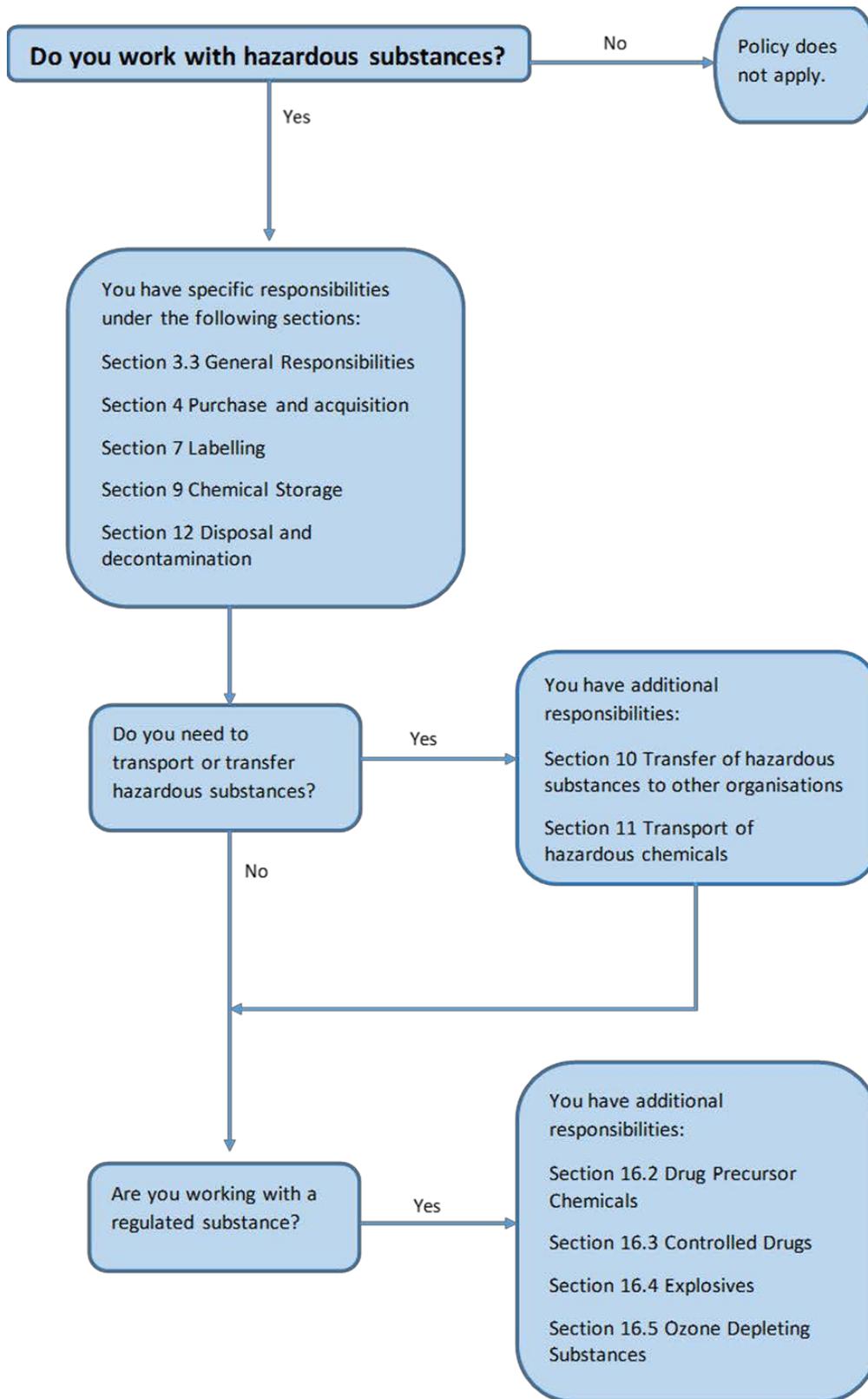


Hazardous Chemical Management Policy

Quick Reference to the policy.







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1. Scope

This policy provides guidelines on safe management practices for hazardous chemicals and their associated risks to ensure

- The health and safety of staff and students.
- Compliance with current regulatory requirements.

The policy applies to

- All staff, students and personnel (e.g. contractors and visiting staff) at workplaces under the University of Bristol control.
- All chemical substances classified as hazardous under the EC regulation 1272/2008 Classification, labelling and packaging of substances and mixtures.
- Substances classified as hazardous under the Dangerous Goods List outlined in Annexe A, Part 3 of the European Agreement concerning International Carriage of Dangerous Goods by Road (ADR).
- Hazardous substances as outlined in the Control of Substances Hazardous to Health Regulations 2002 and the Dangerous Substances and Explosive Atmospheres Regulations 2002.
- Substances used in or generated as a result of work activities that are hazardous to health.
- Substances that due to their chemical properties or the way in which they are used or present in the workplace pose a risk of injury, fire or explosion.
- Regulated substances are substances whose manufacture, possession and use are governed by additional specific legislative controls. This includes substances identified within the
 - Schedules 1 to 3 of the Chemical Weapons Convention (CWC) 1997.
 - Drug precursor substances outlined in EC Regulation No 273/2004
 - Controlled drugs as outlined in Schedule 2, Misuse of Drugs Act 1971 and Schedules 1-5 of the Misuse of Drugs Regulations 2001.
 - Explosive substances and desensitised explosive substances as outlined in the Explosives Regulations 2014.

The policy does not apply to the following substances as they are covered by specific policies.

- Radioactive sources (Working with ionising radiation- policy and guidance).
- Biological Pathogens and Toxins (Biological Safety and Genetic Modification policy).
- Asbestos (Asbestos Management Policy).

The policy supersedes the University of Bristol 'Control of Chemically Hazardous Substances' Code of Practice 2002.

2. Introduction

Effective chemical management requires consideration of the safe, responsible, sustainable and economical use of substances throughout the chemical lifecycle – from procurement, storage, use, transport and through to disposal. All aspects of hazardous chemical use are governed by a comprehensive set of legislation to ensure the risks posed by substances which may be harmful to health or to the environment are suitably controlled. This document provides a framework for Schools and Services to develop and implement their own chemical management programs to fulfil their statutory duties and ensure the health and safety of staff and students using hazardous chemicals.

3. Responsibilities

Roles and general health and safety responsibilities relating to those roles are defined within the University guidance document 'Health and Safety Roles, Responsibilities and Organisation'. In accordance with this document 'Head of School' refers to the head of an academic school whilst 'Head of Service' refers to the head of a department, unit or subdivision within a Professional Services division. Additional responsibilities relating to the management of hazardous chemicals are outlined below.

3.1 Head of School/Service

The Head of School/Service is accountable for the health and safety of the staff they line manage and for others who may be affected by the work of the School/Service.

Heads of School/Service should be aware of the provisions of the University Hazardous Chemical Management Policy and the minimum requirements of legislation relating to hazardous chemical use within their Schools/Service.

The head should ensure that

- Roles and responsibilities for the safe use and management of hazardous chemicals within their school/service are clearly defined.
- Procedures are in place to assess both the physical and health risks posed by the use or generation of hazardous substances within the school/service's activities.

- Effective control measures are in place to prevent or control exposure to hazardous substances and safe systems of work are implemented to ensure compliance with all relevant legislation relating to the use of hazardous chemicals within their school/service.
- Emergency procedures are in place to manage incidents that may arise following the unintentional release of hazardous chemicals.
- Security arrangements are in place to control unauthorised access to regulated chemicals.
- Hazard warning signs are displayed where appropriate.
- These arrangements are outlined within the local rules and are communicated to staff.

3.2 Line Managers/Academic Supervisors

Staff who have a particular role in managing the activities carried out by students or volunteers are considered as academic supervisors. As such they have a duty to ensure the health and safety of the students/volunteers they supervise and have particular responsibilities where their students/volunteers handle hazardous substances.

Line managers are responsible for the health and safety of the staff they manage and others who may be affected by their work.

Line Managers/ Academic Supervisors will ensure

- The risks posed by the use and handling of hazardous chemicals are assessed before starting to work with these substances and that action is taken to prevent or control exposure so far as is reasonably practicable.
- Personnel they manage/supervise are competent to work with hazardous chemicals and have been provided with sufficient information and training on the risks posed by the substances they use and the control measures in place.
- The University Hazardous Chemical Management Policy and local safe systems of work and procedures are adhered to, to ensure compliance with all relevant legislation relating to the use of hazardous chemicals within their activities.
- Measures are employed to ensure that Workplace Exposure Limits (where applicable) are not exceeded.
- Equipment is used correctly and maintained in an efficient state and good working order.
- Suitable personal, protective equipment (PPE) is provided where appropriate, is maintained in good order and reusable items are regularly examined for faults, damage, wear and tear.
- Health surveillance is arranged when there is a residual risk to health once all other control measures have been implemented.

- Workplace monitoring is carried out, where appropriate, to demonstrate compliance with Workplace Exposure Limits or where the effectiveness of control measures is uncertain.
- Risk assessments are reviewed and updated regularly, when significant changes occur and following an incident.
- Ensure equipment and work areas they are responsible for are decontaminated and appropriate clearance permits are completed prior to decommissioning or transferring to alternative locations.
- Ensure that on completion of a project or when staff/students they manage leave the School/Service, all chemicals they were responsible for are either disposed of appropriately using University procedures or responsibility is transferred to another responsible person. Transfer must be documented and items identified to prevent 'abandoned, unknown' chemicals.

3.3 Employees and students

Members of staff and students have a responsibility to

- Comply with control measures outlined in the risk assessment and subsequent safe systems of work.
- Use equipment in accordance with instruction.
- Wear personal protective equipment in accordance with instruction.
- Report unintentional exposure to hazardous substances.
- Report defects or difficulties in equipment used in conjunction with hazardous chemicals.
- Report defects in personal protective equipment.
- Co-operate with Health Surveillance programmes where they are required to attend.

3.4 Occupational Health Service

The University Occupational Health Service is responsible for

- Organising and carrying out appropriate health surveillance programmes and associated training and education as required. Ensuring that health surveillance records are confidentially maintained.
- Notifying the Line Manager of health surveillance results and any resulting recommendations.
- Individual staff or students who have developed health conditions will be assessed by a specialist occupational practitioner and advised on the risks from further exposure.

Related Guidance:

University of Bristol Occupational Health Services <http://www.bristol.ac.uk/safety/health/>

HEOPS guidance http://www.heops.org.uk/HEOPS_Health_Surveillance_Guidance_November_2013.pdf

3.5 Safety and Health Service

The University Safety and Health Service is responsible for:

- Providing competent advice to University staff and students on aspects of health and safety relating to the use of hazardous chemicals within the University.
- Auditing Schools and services for compliance with legislation governing the management of health and safety relating to hazardous chemicals within the workplace.
- Compiling annual returns of European Chemical Weapons substances and Drugs precursor declarations on behalf of the University.
- Investigating accidents and incidents as they arise.
- Providing general chemical safety training to University staff and students.

Related Guidance:

University of Bristol Safety and Health Services <http://www.bristol.ac.uk/safety/chemical-safety/>

4. Purchase and acquisition

The following requirements relate to both the purchase of chemical substances and situations where chemicals are brought into the University from other organisations:

- Hazardous chemical substances may only be procured and delivered through the University system by current members of staff and post graduate research students for use in legitimate University activities.
- Heads of Schools/Services must ensure a policy is in place to manage the authorisation, purchase, recording and receipt of regulated substances in line with the relevant legislation, within Schools/Services that use these substances.
- Regulated substances may only be purchased by an authorised member of University Staff, who must notify the School/Service responsible person of their intention to acquire these substances and provide details of the substance and quantities required.
- Staff purchasing regulated substances that require licences or registration must ensure the appropriate authorities are notified and must liaise with their

School/Service responsible person and the University Chemical Safety Adviser with respect to obtaining the necessary licences.

- The University Chemical Safety Adviser must be notified of the acquisition of all precursor chemicals, controlled drugs, chemicals outlined under the Chemical Weapons Convention and Class 1 explosive or Class 4 desensitised explosive substances.
- Prior to acquiring new substances, line managers/academic supervisors must ensure that a suitable risk assessment is completed according to the requirements outlined under the COSHH and DSEAR regulations.
- When acquiring previously held substances, line managers/academic supervisors must ensure an up-to-date risk assessment exists to cover the task for which the chemical is to be used. Risk assessments should be reviewed regularly and following any significant change.
- Staff acquiring chemicals should ensure the current Safety Data Sheet is obtained from the supplier/manufacturer.
- Staff should purchase the minimum quantities required for their work to avoid stockpiling unused chemicals.

5. Safety Data Sheets

- Suppliers are required by law to provide up to date safety data sheets for products which have been classified as hazardous to supply.
- Safety data sheets provide information on chemicals to assist the users of those chemicals to make a risk assessment; they are not a risk assessment in themselves. The information they provide describes the hazards the chemical presents, and generic guidance on handling, storage and emergency measures.
- Line managers/supervisors must make arrangements to retain up to date safety data sheets for all chemicals holdings or ensure their staff/students are informed of and have access to the relevant suppliers online data sheets (links to the relevant data sheet must be documented as part of the risk assessment). Archived safety data sheets should be retained for 3 years.
- Line managers/supervisors must ensure that relevant safety data sheets are readily available to all staff and students using and storing chemicals.

Related Guidance

University of Bristol Chemical Hazard Classification and Labelling Guidance.

<http://www.bristol.ac.uk/safety/media/gn/chemhaz-signs-gn.pdf>

HSE <http://www.hse.gov.uk/coshh/basics/datasheets.htm>

ECHA <http://echa.europa.eu/regulations/reach/safety-data-sheets>

6. Inventory

A chemical inventory should identify the nature, quantity and location of hazardous chemical holdings within the workplace. This provides the baseline knowledge for identifying and understanding what risks are posed by the range of chemicals used.

- Heads of Schools/Services must ensure arrangements are in place to record stocks of regulated substances held by the School/Service.
- The following information should be included:
 1. Substance name
 2. CAS (Chemical Abstract System) number
 3. Supplier
 4. Date of acquisition
 5. Quantity purchased
 6. Quantity held
 7. Location
 8. Person responsible
 9. Hazard Classification
 10. Any special storage/disposal requirements e.g. shelf life, storage temperature, chemical incompatibility.
- Inventories of regulated substances must be formally audited by the School/Service at least annually to ensure they reflect current chemical stocks. Audits must be documented and the results kept for 3 years.

7. Labelling

- Chemicals purchased from 1st June 2015 must conform to the Classification Labelling and Packaging (CLP) regulation (EC) No 1272/2008. Chemicals obtained prior to this may conform to both the CLP regulations and the Chemicals (Hazard information and Packaging for Supply) Regulations 2009.
- Staff and students must ensure all labels are intact and can be read clearly. Labels should provide information about the contents - chemical name, supplier, hazards and precautions for safe use.
- On receipt, containers must be labelled either with the date acquired, the name of the purchaser and any expiry date (where this is applicable) or in a manner that enables the container to be traceable through a local chemical inventory.
- Containers into which a chemical has been decanted must be clearly labelled with the contents, date, user name and an appropriate hazard warning. Labels must be durable.

Related Guidance

University of Bristol Chemical Hazard Classification and Labelling Guidance.

<http://www.bristol.ac.uk/safety/media/gn/chemhaz-signs-gn.pdf>

HSE <http://www.hse.gov.uk/chemical-classification/labelling-packaging/index.htm>

8. Chemical Handling and Risk Assessment

8.1 Control of Substances Hazardous to Health (COSHH).

- Heads of Schools/Services must ensure arrangements are in place to comply with the Control of Substances Hazardous to Health Regulations (2002).

Line managers/supervisors must

- Ensure that the risks to health of staff and students from activities involving hazardous substances are assessed. The risk assessment should reflect:
 - The hazard classification of the substance.*
 - Information on health effects provided by the supplier, including information contained in any relevant safety data sheet.*
 - Whether the substance poses a risk to health of new or expectant mothers.*
 - The type and duration of exposure.*
 - The activity to be carried out, including the amounts to be used and individuals at risk of exposure.*
 - Additional activities, such as preventative maintenance, where there is the potential for a high level of exposure.*
 - Any relevant occupational exposure standard, workplace exposure limit or similar occupational exposure limit.*
 - Whether the substance can be eliminated or be substituted with a less hazardous alternative or form.*
 - Details of the control measures necessary to prevent or adequately control exposure.*
 - Identify any training or supervision needs.*
 - Identify suitable arrangements for storage and disposal and any related precautions that should be followed to ensure safe management of the substance.*
 - Outline the emergency actions to be taken in the event of an accident or spill.*
 - Identify whether there is a need to carry out workplace monitoring, this may be to demonstrate compliance with Workplace Exposure Limits or where the effectiveness of control measures is uncertain.*

- Identify whether there is a residual risk to health once all other control measures have been implemented that may require staff to undergo health surveillance. This would normally be required where there exposure to a particular substance is known to cause an identifiable adverse health effect.*
- Risk assessments are reviewed regularly, following any significant change, incident or where the results of any relevant exposure monitoring indicate that existing control measures are not effective.
- Ensure suitable measures are implemented to prevent exposure to substances hazardous to health or where this is not reasonably practicable, ensure exposure is adequately controlled.
- Ensure any engineered control measures (e.g. LEV) are in efficient state, good repair and are within any applicable examination & testing period before use.
- Ensure any PPE issued to staff is suitable for the purpose it is intended, fits correctly, is stored properly and is regularly checked. Defective PPE must be repaired or replaced before further use.

Further Guidance

HSE L5 Approved Code of Practice Control of Substances Hazardous to Health 6th edition.

HSE <http://www.hse.gov.uk/coshh/index.htm>

HSE COSHH guidance publication series <http://www.hse.gov.uk/pubns/guidance/index.htm>

HSE Health Surveillance guidance <http://www.hse.gov.uk/health-surveillance/requirement/decision-making-map.htm>

University of Bristol Fume Cupboard Guidance <http://www.bristol.ac.uk/safety/media/gn/fume-cupboards-gn.pdf>

8.2 Carcinogens, Mutagens, Teratogens and substances toxic to reproduction

Heads of Schools/Services must

- Ensure arrangements are in place to maintain an inventory of all Category 1 carcinogens and mutagens held.
- Ensure suitable arrangements to record those individuals working with Category 1 carcinogens and mutagens. These records must be kept for 40 years and should include:
 - The name of the carcinogen/mutagen used.*
 - Title of the procedure or project.*
 - Name of the PI/Responsible person*

- Authorised users*
- Dates that users started and finished work with the substance.*

Line managers/supervisors must

- Identify activities which involve the use of any substance identified as a
 - Category 1A, 1B or 2 carcinogen under Classification, Labelling and Packaging of Substances and Mixtures (EC) No 1272/2008 (CLP/GHS).*
 - Listed in Schedule 1 COSHH regulations 2002*
 - Category 1A, 1B or 2 Mutagen (as classified under CLP/GHS)*
- Ensure that activities involving the use of these substances have been risk assessed with regards the likely level of exposure to staff and the extent of any risk, prior to starting the work. The risk assessment must consider whether the substance(s) can be eliminated from the work or substituted with a less hazardous substance, where this is not possible the use of the carcinogen should be fully justified within the risk assessment.
- Ensure that activities involving such substances are covered by documented safe operating procedures which reflect the control measures identified by risk assessment. Exposure to these substances must be prevented or where this is not possible, be reduced to as low as is reasonably practicable. Exposure must be reduced as far below published Workplace Exposure Limits (WEL) as is reasonably practicable.
- Ensure that workers under their supervision are made aware of the hazards, have been suitably trained in the use of all control measures required to reduce the risks, are competent to carry out the work and staff training records are kept.
- Consider the need for suitable environmental monitoring of the work area where the risk assessment indicates that the control measures may not be adequate to control exposure.
- Refer individuals to the University Occupational Health Service if the risk assessment indicates that exposure to carcinogens may occur, following the failure of control measures resulting in an unexpected exposure or where there is evidence to suspect control measures may not be sufficient to control exposure.
- Ensure risk assessments and standard operating procedures are kept for 40 years where there is evidence to indicate loss of containment or unexpected exposure during the work.
- New & Expectant mothers may be particularly vulnerable to the effects of carcinogens and are advised to inform their line manager/supervisor of their pregnancy as soon as is possible. It is the responsibility of line managers/supervisors to review work activities with the individual, to ensure further risk assessments are carried out, and any additional control measures are identified and implemented.

- Young Persons (under 18 years) must not handle known carcinogens, mutagens or substances toxic to reproduction.
- The following substances are prohibited under the COSHH regulations: import, manufacture and use of 2-naphthylamine, benzidine, 4-aminodiphenyl and their salts and any substance containing any of these compounds in a total concentration equal to or greater than 0.1% by mass.

Further Guidance

European Chemical Agency Database <http://echa.europa.eu/information-on-chemicals/>

HSE COSHH Approved Code of Practice <http://www.hse.gov.uk/pubns/priced/l5.pdf>

HSE Workplace Exposure Limits <http://www.hse.gov.uk/pubns/priced/eh40.pdf>

University of Bristol, New & Expectant Mothers at Work guidance
<http://www.bristol.ac.uk/safety/media/gn/new-expect-mothers-gn.pdf>

University of Bristol, Work Experience guidance. <http://www.bristol.ac.uk/safety/media/gn/workexp-gn.pdf>

8.3 Dangerous Substances and Explosives Atmospheres (DSEAR).

- Deans are responsible for ensuring that faculty managed facilities (e.g. faculty stores, laboratories, waste areas or workshops) comply with the Dangerous Substance and Explosive Atmospheres Regulations (2002).
- Where dangerous substances are used or likely to be present, Heads of Schools and Services must ensure arrangements are in place to comply with the Dangerous Substance and Explosive Atmospheres Regulations (2002).
- Heads of School/Service must ensure suitable arrangements for dealing with emergencies are in place.

Line managers/supervisors must

- Ensure that the risks posed by activities involving dangerous substances (substances which present a risk of fire or explosion) are assessed. The risk assessment should reflect:
 1. *The hazardous properties of the substance.*
 2. *Safety information provided by the supplier, including information contained in any relevant safety data sheet.*
 3. *The work processes, substances and amounts used.*
 4. *Non routine activities, such as maintenance and unexpected releases, where there is the potential for a higher risk of fire or explosion.*
 6. *Arrangements for safe handling, storage, transport and disposal.*
 7. *Whether the substance can be eliminated or substituted for a less hazardous alternative.*

8. Preventative and control measures.
9. The potential for an explosive atmosphere to exist and the likelihood of ignition sources being present.
10. The scale of any potential effect from fire or explosion.
11. Identify any areas that may be connected to an area where an explosive/flammable atmosphere may exist.

- The risk assessment is recorded (this may be an integrated COSHH/DSEAR assessment) and the significant findings communicated to those individuals who are at risk of exposure.
- Ensure risk assessments are reviewed regularly, following any significant change, incident or where there is reason to suggest an assessment is no longer valid.
- Ensure that suitable technical and organisational measures are in place to eliminate or reduce so far as is reasonably practicable the risks identified within the risk assessment.
- Ensure where there is potential for an explosive atmosphere to exist, the area is classified according to the appropriate DSEAR zones. Measures must be in place to protect the area from sources of ignition and ensure that only intrinsically safe (ATEX rated) equipment is used within the relevant zone.

Further Guidance

University of Bristol Fire Safety policy <https://www.bris.ac.uk/safety/media/uobonly/po/fire-policy-po.pdf>

HSE <http://www.hse.gov.uk/fireandexplosion/dsear.htm>

HSE approved code of practice Dangerous Substances and Explosive Atmospheres L138, 2013.

HSE Controlling fire and explosion risk in the workplace INDG370

HSE Safe use and handling of flammable liquids <http://www.hse.gov.uk/pubns/books/hsg140.htm>

British Compressed Gas Association <http://www.bcgga.co.uk/>

University of Bristol DSEAR Checklist <http://www.bristol.ac.uk/safety/media/fo/dsear-acc-fo.docx>

9. Storage

- Heads of Schools/Services must appoint a responsible person to manage any dedicated central chemical stores; the individual must have an understanding of the hazards present and be provided with adequate information, training and instruction to competently manage the facility.

Line managers/supervisors must

- Ensure that all hazardous chemical storage for which they are responsible, is assessed with regards the risks posed by the hazards present, the physical and chemical properties and the quantities of the substances stored. The assessment should consider the type of storage that is required, the impact should a fire occur and whether the location presents any increased risk to the health and safety of persons working within or near to the facility.
- The risk assessment informs the development of a risk control strategy to ensure the store area is fit for purpose, provides suitable segregation of incompatible chemicals, is adequately ventilated, has suitable proximity to fire detection systems and fire-fighting equipment and that appropriate access restrictions are in place.
- Line managers/supervisors must ensure that the specific storage arrangements for substances which are potentially unstable or may degrade during prolonged storage are identified and put in place. This must include establishing designated shelf lives for these substances, ensuring a robust system for stock control and a suitable, documented inspection regime is in place.

The School/Service Responsible person must ensure the designated central chemical stores they are responsible for

- Are recorded in the building fire risk assessment and have been brought to the attention of the facilities manager.
- Have suitable emergency arrangements are in place, including ready access to first aid kits and eyewashes, any special provisions identified by the storage area risk assessment (e.g. as a result of use of particularly hazardous materials such as Hydrofluoric acid, phenol or cyanide), monitoring equipment is installed if required (e.g. low oxygen alarm) and suitable spill kits are easily accessible.
- Display appropriate signage as designated by the Health and Safety (Safety Signs and Signals) Regulations 1996. Where several chemical hazards are present, signage may be limited to identify the primary hazard within the store.
- Are included in the regular workplace inspection schedule. The inspection regime must account for the nature of materials stored, the impact on and the current condition of the structure and fittings within the store and the condition of chemical containers.

Further Guidance

University of Bristol Chemical Storage Guidance <http://www.bristol.ac.uk/safety/media/gn/chem-storage-gn.pdf>

HSE Storage of flammable liquids. <http://www.hse.gov.uk/fireandexplosion/storageflammliquids.htm>

HSE storage of flammable liquids in containers <http://www.hse.gov.uk/pubns/books/hsg51.htm>

HSE storage of flammable liquids in tanks <http://www.hse.gov.uk/pubns/books/hsg176.htm>

HSE Storage of hazardous chemicals <http://www.hse.gov.uk/pubns/priced/hsg71.pdf>

British Compressed Gas Association <http://www.bcgas.co.uk/>

Solvent Industry Association <http://www.sia-uk.org.uk/guidance-notes.htm>

University of Bristol Laboratory Inspection Checklist <http://www.bristol.ac.uk/safety/media/fo/lab-inspect-fo.doc>

University of Bristol Workshop Inspection Checklist <http://www.bristol.ac.uk/safety/media/fo/wshop-inspect-fo.doc>

10. Transfer of hazardous chemicals to other organisations.

Line managers/supervisors must ensure

- Any transfer of hazardous chemicals to another organisation is recorded and the local chemical inventory updated accordingly.
- Any such transfer must be to a legitimate organisation/business as outlined by the Control of Explosive Precursors Regulations 2014. Chemicals must not be supplied for personal use.
- Chemicals must be classified, labelled and packaged according to the Classification, Labelling and Packaging (CLP) regulation (EC) No 1272/2008 and a safety data sheet provided.
- The transfer of novel research chemicals and mixtures to another research organisation may be subject to additional requirements under CLP. These include:
 - Compilation of relevant hazard information*
 - Evaluation of hazard information relating to the substance*
 - Review of information against CLP chemical hazard criteria*
 - Self-classification of any chemical hazards*
 - Notification to European Chemical Agency Classification and Labelling Inventory.*
- Staff or students wishing to transfer novel research chemicals to another organisation for further testing or research must inform the University Chemical Safety Adviser to determine whether self-classification and notification is required.
- Staff or students wishing to transfer novel research chemicals to another organisation must arrange a formal Materials Transfer Agreement through Research and Enterprise Development (RED).
- Staff or students wishing to transfer substances to organisations overseas must ensure they comply with the University of Bristol Export Control Policy.

Further Guidance

Home Office Precursor Guidance <https://www.gov.uk/government/publications/advice-to-the-public-on-the-control-of-explosives-precursors-regulations-2014>

European Chemicals Agency <http://echa.europa.eu/web/guest/regulations/clp/understanding-clp>

University of Bristol Export Control Policy <http://www.bris.ac.uk/secretary/legal/export/policy.pdf>

11. Transport of hazardous chemicals.

Line managers/supervisors must

- Ensure staff and students are aware of the requirements of Carriage of Dangerous Goods and use of Transportable Pressure Equipment Regulations 2009 that apply to their activities.
- Ensure staff and students acting as either consignors or carriers of hazardous chemicals have been trained as outlined within the regulations.
- Ensure staff and students consider using a competent courier company to transport hazardous chemicals in preference to using a University vehicle.

Staff and students consigning hazardous chemicals must

- Classify the goods according to the ADR 2013 Dangerous Goods List, this includes identifying
 - Correct Shipping name*
 - Corresponding UN number*
 - UN Classification code*
 - Limited quantity code*
 - Packaging code*
- Package the goods securely and according to any ADR 2013 packaging instructions.
- Label inner containers according to the Classification, Labelling and Packaging EC 1272/2008 regulations.
- Label outer packaging according to any ADR 2013 requirements.
- Provide consignment information to the relevant carrier
 - Names and hazards of substances.*
 - Amounts to be carried.*
 - Names and address of consignor and consignee.*
 - Information to ensure the safe transport of the goods.*

Staff and students carrying hazardous chemicals by road must

- Obtain the appropriate consignment documentation from the consignor.
- Ensure substances are in a fit condition for carriage.
- Ensure they are using an appropriate vehicle for the goods to be transported, in line with ADR 2013 requirements.
- Ensure the vehicle is marked according to ADR 2013, if applicable.
- Ensure they have transport documentation which includes
 - Hazard information,*
 - Amounts carried,*
 - Emergency procedures,*
 - Emergency contact information,*
 - TREM card (if appropriate).*
- Transport documentation must be provided to enforcing agencies if requested.
- Take appropriate precautions against fire or explosion.
- Ensure the vehicle is equipped with suitable emergency equipment e.g. spill kits and fire extinguisher.
- Ensure loading and unloading does not pose risks to the health and safety of themselves or others who might be affected.
- Ensure packages are secured and not opened during transit.
- Ensure packages are transported so as not to contaminate the vehicle or other items, should this occur suitable decontamination measures must be taken.
- Ensure the vehicle is not left unsecured whilst it contains hazardous chemicals.

Further Guidance

HSE Carriage of Dangerous Goods Guidance <http://www.hse.gov.uk/cdg/index.htm>

ADR 2011 <http://www.unece.org/trans/danger/publi/adr/adr2013/13contentse.html>

12. Disposal and decontamination

- Heads of Schools/Services should appoint a designated responsible person to manage any dedicated central waste storage area.

Line managers/supervisors must

- Ensure chemical risk assessments identify the appropriate waste disposal route.
- Ensure the risk assessment contains information relating to appropriate decontamination procedures.
- Ensure equipment that has been used in conjunction with hazardous chemicals is decontaminated and assessed for any residual risk posed by chemical hazards before it is released for maintenance, repair or disposal. A Contaminated Item

Clearance permit must be completed and accompany the equipment, copies of the permit must be kept for 3 years.

- Ensure any work area they are responsible for has been cleared of hazardous substances and decontaminated before they vacate the area for refurbishment, maintenance or when moving area. A Contaminated Area Clearance permit must be completed and forwarded to the local Facilities Manager and the School/Service Manager.

Staff and students disposing of chemical waste must

- Ensure it is correctly packaged and labelled with contents, hazards, date and originator.
- Book chemicals waste for disposal by the University chemical waste contractor. Staff and students should complete the chemical waste booking form and submit this to Sustainability (sustainability-estates@bristol.ac.uk).
- Ensure chemical waste is stored in a suitable and secure area prior to collection by the waste contractor.
- Chemical waste is segregated with regards chemical compatibility.

Further Guidance

University of Bristol Chemical Waste Guidance <http://www.bristol.ac.uk/safety/media/gn/chemical-waste-gn.pdf>

University of Bristol, Sustainability http://www.bristol.ac.uk/environment/waste/chemical_%20waste/

University of Bristol Contaminated Item Clearance permit <http://www.bristol.ac.uk/safety/media/fo/item-decon-fo.docx>

University of Bristol Contaminated Area Clearance permit

Environment Agency <http://www.environment-agency.gov.uk/business/topics/waste/32180.aspx>

13. Emergency

Heads of Schools must ensure

- In the event of a serious incident, arrangements are in place to make hazard information readily available to individuals (including security and external emergency services) attending the incident to enable the appropriate action to be taken.
- Where there is serious risk to health, immediate steps are taken to mitigate the effects, provide information to those who may be affected and restore the situation to normal.
- Where staff are required to carry out work in response to a chemical incident they are provided with appropriate PPE and equipment, information and training.

Line managers/supervisors must ensure

- Emergency procedures and arrangements are identified by risk assessments; this should consider what to do in the event of fire, first aid and spills/unintended release of a hazardous substance.
- First aid provisions (including any specialist requirements) are suitable for the chemicals used by their staff and students.
- Appropriate spill kits are available in areas where hazardous chemicals are used, ensure staff are instructed on their correct use and are aware of the local arrangements for responding to spills.
- Additional emergency resources and training are provided where the chemical risk assessment identifies the need for specialist provisions (e.g. self-contained breathing apparatus, gluconate/dipterine gel).
- The use of any substance that poses a significant fire risk is brought to attention of the facilities manager and School Safety Adviser.
- Significant spills that have entered a watercourse, sewer or combined drainage system must be reported to Safety and Health Services and the EMS/Waste Manager, Sustainability, once it is safe to do so. They will arrange any necessary notification to the relevant authorities.

Further Guidance

University of Bristol First Aid guidance <http://www.bristol.ac.uk/safety/guidance/#firstaid>

University of Bristol Fire Safety policy <http://www.bristol.ac.uk/safety/fire-safety/#policy>

University of Bristol Chemical Splash Guidance <http://www.bristol.ac.uk/safety/chemical-safety/#guidance>

University of Bristol Crisis Management procedures
<http://www.bristol.ac.uk/planning/crisismanagementandbcm/>

14. Security

Heads of Schools / Services must ensure that

- Access and supervisory arrangements for the use and storage of hazardous chemicals are in place and are relevant to the risks associated with the chemicals used.
- Where regulated substances are in use, documented procedures are in place to ensure suitable access control. Consideration should be given to keeping a list of authorised users, provision of secure storage arrangements, monitoring the use and procurement of such substances, limiting out of hours access and provision of restricted work areas (where applicable).

Further Guidance

<http://www.cleapss.org.uk/attachments/article/0/SYC%20Education.pdf?Free%20Publications/>

<http://www.nactso.gov.uk/hazardous-materials>

15. Training, Instruction and supervision.

Line managers/supervisors are responsible for

- Ensuring staff and students are provided with suitable instruction and training to enable them to work with hazardous substances safely. Instruction should include
 - Information on the substances used*
 - Risks to health presented by the use of those substances*
 - Relevant workplace exposure limits.*
 - Relevant safety data information*
 - The significant findings of chemical risk assessments*
 - Precautions to take to prevent or reduce exposure*
 - Correct operation and use of equipment and control measures.*
 - Correct disposal route.*
- Providing an appropriate level of supervision as determined by risk assessment.
- Demonstrating their staff/students are competent to handle hazardous substances used in their work.
- Reviewing staff/student training needs on a regular basis or when there are significant changes to work involving hazardous substances.

Staff providing instruction and training should be sufficiently skilled and competent to do so to a standard necessary to ensure the Health and Safety of the individuals they are instructing. HSE defines competence as a suitable combination of training, skills, sector experience and knowledge of the working environment, the techniques, equipment and substances used and the hazards they pose. They should also have the ability to assess the skills attained. The degree of skill, knowledge and competence needed will depend on the nature of the activity undertaken, the chemicals used and the risks they pose.

Further Guidance

HSE guidance: <http://www.hse.gov.uk/competence/what-is-competence.htm>

HSE guidance <http://www.hse.gov.uk/pubns/indg345.htm>

16. Regulated Substances

16.1 Chemical Weapons Convention (CWC) 1997

- Chemicals listed in Schedules 1 to 3 of the Chemical Weapons Convention are subject to verification by the CWC UK National Authority. Anyone who either produces, uses, processes, imports or exports substances listed within these schedules is subject to certain legal requirements.

Heads of Schools/Services must

- Ensure procedures are in place to identify activities that involve the use of scheduled substances.
- Ensure that where substances listed within Schedule 1, CWC are identified, the appropriate licence for use is held and a copy of the licence is forwarded to the University Chemical Safety Adviser.
- Ensure arrangements are in place to record the Schools annual use of Schedule 1, 2 and 3 substances as required by the CWC. This information must be reported to Safety and Health Services.
- Safety and Health Services will collate and report an annual declaration on behalf of the University of Bristol to the CWC UK National Authority.

Further Guidance

CWC Schedules <http://www.opcw.org/chemical-weapons-convention/annexes/annex-on-chemicals/#c12006>

16.2 Precursor Chemical Licensing

Heads of Schools/Services must

- Ensure procedures are in place to identify activities which involve the use of Category 1 or 2 precursor chemicals as outlined in EC Regulation No 273/2004 and obtain a relevant licence for Category 1 precursors, by application to the Home Office prior to work with those substances commencing. Existing licences must be renewed annually. Copies of the licence must be forwarded to Safety and Health Services.
- Appoint a responsible person to manage and authorise local activities relating to Category 1 & 2 substances where these are used.
- Ensure arrangements are in place for the secure storage and disposal of any Category 1 chemicals used within the School/Service. Access must be restricted to authorised individuals and the use of these substances must be regularly monitored. Activities must be covered by documented, safe operating procedures.

- Ensure procedures are in place to collate and submit an annual return of all Category 1 and 2 precursor chemical use to Safety and Health Services.

Line managers/supervisors must ensure

- Staff purchasing Category 1 and 2 precursors complete a 'Declaration of Specific Uses Form' prior to purchase; these forms should be available from the relevant supplier.
- Records are maintained of all Category 1 and 2 precursor chemicals they hold, records should include:
 - Supplier,*
 - Date of purchase*
 - Person responsible*
 - Amount*
 - Date of disposal*
 - Amounts disposed.*
- Losses or theft of Category 1 and 2 chemicals are reported to the Head of School/Service, University Security Services and University Safety and Health Services.
- Safety and Health Services will compile an annual return of Category 1 and 2 Precursor Chemical use on behalf of the University of Bristol to the Home Office.

Further Guidance

Home Office Precursor Licencing <https://www.gov.uk/precursor-chemical-licensing>

Home Office Precursor Categories <https://www.gov.uk/government/publications/precursor-chemical-import-and-export-authorisation-wallchart>

16.3 Use of controlled drugs for research activities.

Heads of Schools/Services are responsible for

- Ensuring measures are in place to identify activities which require the use of controlled drugs as detailed in Schedule 2 of the Misuse of Drugs Act 1971 and in Schedules 1 to 5 of the Misuse of Drugs Regulations 2001.
- Ensuring the appropriate licence is obtained for work involving Schedule 1 controlled drugs. Holders of a Schedule 1 licence must forward details of their licence and documented operating procedures to Safety and Health Services.

- Appointing an Accountable Officer in line with the provisions of the Health Act 2006, to ensure the safe management of Schedule 1 to 5 controlled drugs where they are used within the School/Service
- Appointing Responsible Persons to manage the day to day use of controlled drugs.

The Accountable Officer has responsibility for:

- Establishing a policy for the purchase, receipt, security and use of controlled drugs within the School/Service.
- Monitoring and auditing the management and use of controlled drugs within their School/Service. This includes authorising the purchase of controlled drugs, maintaining a record of all controlled drug holdings within the School/Service, maintaining a record of Responsible Persons appointed to manage controlled drugs within their local areas, inspecting storage cabinets and auditing stocks on an annual basis.
- Ensuring all holdings of controlled drugs are reported to Safety and Health Services annually.
- Ensuring waste controlled drugs are disposed of in line with Hazardous Waste Regulations 2005, The Environmental Permitting (England and Wales) Regulations 2010 (T28) and Regulation 10 of the controlled drugs (Supervision of Management and Use) Regulations 2006. The denaturing process must be witnessed by the Accountable Officer and recorded.
- Ensuring Responsible Persons hold suitable and sufficient risk assessments and documented operating procedures for the receipt, storage, and use of controlled drugs within their area of responsibility.
- Arranging the investigation of incidents, discrepancies in controlled drugs registers or where there is evidence of misuse.
- Reporting incidents and suspected misuse to the Head of School/Service, University Secretary and The Drugs Licensing and Compliance Unit (Home Office).

Responsible Persons must ensure:

- Controlled drugs must be ordered only by the named responsible persons.
- Suitable risk assessments and documented operating procedures for the safe use and management of controlled drugs are implemented within their area of responsibility. Protocols must be written with consideration of the Home Office controlled drug guidelines for safe operating procedures.
- Controlled drugs are stored in suitable cabinets that are compliant with the Misuse of Drugs (Safe Custody) Regulations 1973, and access is restricted to authorised users.
- A list of authorised users and key holders is maintained.

- Schedule 1 and 2 controlled drugs registers are kept up to date and entries are validated and countersigned by themselves or their delegated representative. Registers must be hard bound with numbered pages and kept within the controlled drug storage cabinet. Each drug should be recorded on a separate page, with an index on the contents page. Registers must be kept for 2 years following the date of the last entry.
- Holdings of Schedule 3 and 4 substances are recorded in a local inventory.
- Controlled drugs stocks are audited monthly.
- The Accountable Officer is notified of all controlled drugs holdings.
- Incidents and suspected misuse is reported immediately to the Accountable Officer.

Authorised users must ensure

- Stocks, transfers and use of Schedule 1 and 2 substances are recorded in a controlled drug Register in accordance with Regulations 19, 20 and Schedule 6 of the Misuse of Drugs Regulations 2001.
- Incidents and suspected misuse is reported immediately to the Accountable Officer.

Further Guidance

Home Office <https://www.gov.uk/controlled-drugs-licences-fees-and-returns>

16.4 Explosive Substances

Heads of Schools/Services must ensure

- Arrangements are in place to comply with the Explosives Regulations 2014.
- Any School/Service wishing to acquire and keep UN Class 1 explosives (UN numbers 0001 to UN0600) or any desensitised explosive (subject to exemptions outlined in Schedule 2 of the regulations) must contact Safety & Health Services to arrange the necessary Explosives certificates and storage licence.
- Arrangements are in place to authorise persons who wish to acquire and use relevant explosive substances. Prohibited persons, as outlined in Regulation 32 of the Explosives Regulations 2014 must not knowingly be employed in a position where they have control or may handle explosive substances.
- Arrangements are in place to store explosive substances in compliance with the requirements outlined in the Explosives regulations 2014. Explosive substances must be stored securely in locked facilities and unauthorised access prevented.
- Details of all explosive substances and desensitised explosive substances held by the School/Service are notified to Safety and Health Services annually.

Line managers/supervisors must ensure

- Prior to acquiring any explosive or desensitised explosive substances they contact Safety and Health Services to confirm arrangements for the necessary Explosives certificates and storage licence.
- Appropriate measures are taken to prevent fire or explosion, to limit the effect of fire or explosion should it occur and to protect persons who may be affected from the effects.
- Records are kept of all explosive substances they acquire and keep. Records must include information relating to the
 - Type of substance,
 - CAS identifier number,
 - Unique container identification
 - Supplier,
 - Date acquired
 - Amount
 - Location stored and used
 - Responsible person
 - Use.
- Records are maintained for 3 years from disposal of the substance.
- Regular stock checks and inspections are carried out and documented.
- Any theft or accidental loss of an explosive substance is reported to the head of School/Service, University Security and Safety & Health Services who will then inform Avon and Somerset Constabulary Firearms department.
- Staff using explosive substances have received appropriate training and instruction to enable them to work safely.
- Explosive substances are disposed of in a safe, secure manner, through the University Chemical waste disposal system.

Further Guidance

HSE Explosives Regulations 2014, Safety Provisions <http://www.hse.gov.uk/pubns/priced/l150.pdf>

HSE Explosives Regulations 2014, Safety Provisions <http://www.hse.gov.uk/pubns/books/l151.htm>

17. Laboratory use of Ozone Depleting Substances

The use of controlled substances under Regulation (EC) 1005/2009 Substances that deplete the ozone layer, is subject to restrictions and registration with the European Commission's Ozone Depleting Substance (ODS) database. Substances outlined in

Annexe I of the regulation may be used for essential laboratory or analytical purposes where no alternative is available.

Staff wishing to use an ODS substance must

- Ensure the proposed use is permitted under the regulation.
- Arrange registration with the ODS database through the University Chemical Safety Adviser prior to purchase.

Further Guidance

DEFRA <https://www.gov.uk/managing-fluorinated-gases-and-ozone-depleting-substances>

European Commission http://ec.europa.eu/clima/policies/ozone/ods/index_en.htm