

# CODE OF PRACTICE

Safe Use of Hazardous Chemicals including dusts, fumes, vapours and mists

## Document Information

Author	Debbie Robarts				
Revised By					
Date	May 2026	Version	1	Status	Approved

## Document change record

Date	Change description	Person
May 2026	Code of Practice written to transition from the Chemical Safety Guidance	Debbie Roberts
May 2026	Changes to published standard include: <ul style="list-style-type: none"><li>• Clarification on roles and responsibilities</li><li>• Expanded information regarding COSHH assessments</li><li>• More detailed information regarding chemical management including storage, compatibility, high hazard chemicals</li><li>• Inclusion of explosives, explosive precursors and peroxide forming chemicals</li></ul>	Debbie Roberts

## Contents

Contents.....	3
Summary .....	5
Scope.....	5
Introduction .....	5
Definitions.....	5
Roles and Responsibilities.....	8
Heads of Department.....	8
Line Managers .....	8
Principal Investigators (PIs) .....	9
Persons working with hazardous chemicals.....	10
COSHH Assessment.....	10
Chemical Inventory .....	11
Classification and Labelling.....	11
Storage .....	13
Basic Principles of Safe Storage .....	13
Types of Storage .....	14
Minimum Storage Requirements .....	15
Best Practice .....	15
Transport.....	15
Transport on campus.....	15
Transport off campus.....	16
High Hazard Chemicals.....	17
Hydrofluoric Acid .....	17
Regulated Poisons.....	17
Other Highly Toxic Chemicals .....	18
Carcinogens and Mutagens .....	18
Highly Reactive and potentially Explosive Chemicals.....	19
Regulated Substances .....	20
Chemical Weapons Convention (CWC) 1997.....	21
Explosives.....	21
Explosives Precursors.....	22
Information, Instruction and Training.....	22
Emergency Procedures .....	23
Hazardous Chemical Waste Disposal .....	23



References ..... 24

Appendix 1 COSHH Assessment Guidance ..... 25

Appendix 2 CLP Pictograms ..... 28

Appendix 3: Segregation of Hazardous Chemicals (HSG71) ..... 30

Appendix 4: Illustrations of Good Storage..... 31

Appendix 5: Recommended Register/log format for Highly Toxic Chemicals..... 32

## Summary

Employers have a duty of care to assess, manage and control significant risks to their employees and anyone else who may be affected by their undertaking. The University's health and safety policy sets out its general arrangements to fulfil this duty of care.

This Code of Practice (CoP) describes how the University manages the risks associated with the use of hazardous chemicals so that we can reduce risks of occupational ill-health and injury.

The Code of Practice is also intended to ensure that the University is managing our legal responsibilities to people using hazardous chemicals under the:

- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999 (the "management regulations")
- Control of Substances Hazardous to Health (COSHH) Regulations 2002

## Scope

This code of practice has been written to support:

- People who work with hazardous chemicals, dusts, fumes, vapours and mists
- People who line manage people who work with hazardous chemicals
- Directors, Heads of Department and others who have responsibility for oversight of health and safety matters in departments, directorates, institutes and other functional units.

It applies to all users of hazardous chemicals at the University of Bath. "using" includes tasks such as storage, labeling and hazardous waste management as well as handling. They should apply from the point when a chemical is delivered to site, until it is taken from the site as waste.

This is not restricted to chemical laboratories but also includes paints, oils, dust, mists etc. which are defined as hazardous under the Control of Hazardous Substances to Health (COSHH) Regulations 2002.

This CoP does not cover biological materials, nanomaterials and compressed gases which also sit under the COSHH regulations. These have their own documentation. Hazardous chemical disposal is also covered in separate documentation and training.

## Introduction


To protect people's health, the risks arising from work-related exposures to hazardous substances need to be assessed BEFORE any work is started. Controls need to be put in place and monitored to make sure they are maintained and are suitable and sufficient.

## Definitions

<b>Hazardous Substance</b>	Any substance which can, under some circumstances, have a harmful effect on a person's health: Chemicals, products containing chemicals, fumes, dusts, vapours, mists, nanomaterials, gases including asphyxiate gases, biological agents and germs that can cause disease.
----------------------------	---

<b>COSHH Assessment</b>	A risk assessment that concentrates on the hazards and risks from hazardous substances in the workplace.
<b>Safety Data Sheet (SDS)</b>	<p>When a product is 'dangerous for supply', by law, the supplier must provide a safety data sheet.</p> <p>They provide information on chemical products that help users of the chemicals to make a risk assessment. They describe the hazards the chemical presents, and give information on handling, storage, waste disposal and emergency measures in case of accident.</p> <p>A safety data sheet is <b>not</b> a risk assessment. You should use the information it contains to help make your own assessment.</p>
<b>Hazard Statement (H codes)</b>	<p>In section 2 hazard identification of the SDS. This is a standardised phrase that describes the nature of the hazard of a chemical substance or mixture and, where appropriate, the degree of that hazard. It communicates hazard information clearly and consistently worldwide. Helps users understand what the chemical can do (e.g., toxic, flammable, corrosive) and supports safe handling, storage, and emergency response.</p> <p>Examples:</p> <p>H225: Highly flammable liquid and vapour</p> <p>H314: Causes severe skin burns and eye damage</p> <p>H335: May cause respiratory irritation</p>
<b>Precautionary Statement (P codes)</b>	<p>In section 2 hazard identification of the SDS. This is a standardised phrase that describes recommended measures to minimise or prevent adverse effects resulting from exposure to a hazardous chemical or from its improper storage or handling. Provide practical safety advice. They are grouped into categories:</p> <p>Prevention (P2xx) – e.g., avoiding exposure</p> <p>Response (P3xx) – what to do in an emergency</p> <p>Storage (P4xx) – safe storage conditions</p> <p>Disposal (P5xx) – proper disposal methods</p> <p>Examples:</p> <p>P280: Wear protective gloves/protective clothing/eye protection/face protection</p> <p>P302 + P352: IF ON SKIN: Wash with plenty of water</p> <p>P403: Store in a well-ventilated place</p>
<b>Control Measure (specific to COSHH)</b>	Something implemented that prevents or adequately controls exposure to substances hazardous to health, to prevent ill health. This can be control equipment such as Local Exhaust Ventilation (LEV), ways of working including

	procedures, training and supervision and worker behaviour; ensuring employees follow the control measures.
<b>Suitable and Sufficient</b>	There is no absolute legal definition for this term. The COSHH assessment should be reflective of the scale of the work being carried out, all significant hazards should be identified, and proportional control measures applied, following the hierarchy of control, to reduce the risk to a tolerable level. It should be clear and straightforward to understand.
<b>Principles of Good Control Practice</b>	<p>Eight generic principles are defined in Schedule 2A of the COSHH Regulations. They must all be applied to obtain effective and reliable control.</p> <ul style="list-style-type: none"> <li>• Minimise emission, release and spread</li> <li>• Consider routes of exposure</li> <li>• Choose control measures proportionate to the risk</li> <li>• Choose effective control options</li> <li>• Personal protective equipment – the final control option</li> <li>• Review the effectiveness of controls</li> <li>• Provide information and training</li> <li>• New measures, new risks</li> </ul>
<b>Risk of harm is 'as low as is reasonably practicable'</b>	<p>In terms of COSHH this means:</p> <ul style="list-style-type: none"> <li>• All control measures are in good working order.</li> <li>• Exposures are below the Workplace Exposure Limit, where one exists.</li> <li>• Exposure to substances that cause cancer, asthma or genetic damage is reduced to as low a level as possible.</li> </ul>
<b>Workplace Exposure Limit (WEL)</b>	<p>WELs are British occupational exposure limits and are set to help protect the health of workers. They are intended to prevent excessive exposure to specified hazardous substances by containing exposure below a set limit. WELs are concentrations of hazardous substances in the air, averaged over a specified period of time, referred to as a time-weighted average (TWA). Two time periods are used:</p> <ul style="list-style-type: none"> <li>• long-term (8 hours).</li> <li>• short-term (15 minutes).</li> </ul> <p>Short-term exposure limits (STELs) are set to help prevent effects such as eye irritation, which may occur following exposure for a few minutes.</p> <p>Contained in HSE publication "EH40/2005 Workplace Exposure Limits"</p>
<b>Competent Person</b>	A person with adequate knowledge, training and expertise, e.g., in the design of processes, control measures including ventilation and PPE, the human and technical reasons why the control measures can fail, and the importance of following the principles of the hierarchy of control and good practice for the control of substances hazardous to health.

<b>Incompatible chemicals</b>	Substances that must not come into contact with each other because they can react dangerously. When mixed or stored together, incompatible chemicals may cause fire, explosion, release of toxic gases, excessive heat, or violent reactions.  Examples include acids and bases, oxidisers and flammable materials, and water-reactive substances and water.
<b>Primary Hazard Classification</b>	This is the first CLP pictogram and hazard statement on the SDS.  For example: Ethanol is H225 Highly flammable liquid and vapour 

## Roles and Responsibilities

The University's health and safety policy describes the general roles and responsibilities on all employees to safeguard themselves and others in the workplace.

This CoP sets out the additional specific roles and responsibilities for managing risks related to hazardous chemical use.

### Heads of Department

Heads of Department (HoDs), Divisions and Directorates are responsible for the day-to-day implementation of this code of practice.

Responsibilities include ensuring that:

- Risk (COSHH) assessments are carried out for all work activities using hazardous chemicals within area of responsibility
- Identified control measures are implemented and monitored such as provision of suitable LEV, PPE and storage areas
- Competent person/s to advise on chemical management and production of COSHH assessments are appointed
- Arrangements are in place to monitor compliance with regulatory requirements and conditions of applicable licenses
- Chemical management is discussed at H&S Committees including completion of chemical inventory

### Line Managers

Responsibilities include:

- Suitable and sufficient risk (COSHH) assessments are produced and identified control measures implemented before any work with hazardous chemicals is started
- Persons under your supervision are provided with suitable information, instruction and training, ensuring all hazards and required controls are understood, before using hazardous chemicals
- Provision of training for safe handling of chemicals including use of control measures such as Local Exhaust Ventilation (LEV), i.e. fume hoods, and appropriate PPE
- Not allow persons under your supervision to work unsupervised with hazardous chemicals until considered competent to do so

- Controlling exposure to carcinogens, mutagens and asthmagens to as low as reasonably practicable (ALARP) due to health effects
- Managing inventory of chemicals following department and university procurement rules, completion of ChemInventory, minimisation of work area inventory, safe storage, emergency procedures and waste disposal
- Not allowing or carrying out any work with hazardous chemicals until a defined waste disposal route has been determined (specified in the COSHH assessment)
- Ensuring risk assessments are regularly reviewed in accordance with risk assessment guidance and training
- Putting in place emergency arrangements to ensure persons under your supervision know what to do in the event of an incident
- Completion and signing of documentation required by chemical suppliers such as end user declarations as the person accountable for the use of the material
- Ensuring substances subject to regulatory requirements are used in accordance with the conditions set by the licence or supplier
- Records are kept of all training, reviews etc. and are up to date

### Principal Investigators (PIs)

PIs are responsible for Research H&S. Where two or more PIs are appointed, they each have responsibilities under this CoP and other H&S policy. If one PI is designated as the lead on H&S matters, then this must be recorded in writing.

Responsibilities of PIs include:

- Suitable and sufficient risk (COSHH) assessments are produced identified control measures implemented before any work with hazardous chemicals is started
- Persons under your supervision are provided with suitable information, instruction and training, ensuring all hazards and required controls are understood, before using hazardous chemicals
- Provision of training for safe handling of chemicals including use of control measures such as Local Exhaust Ventilation (LEV), i.e. fume hoods, and appropriate PPE
- Not allow persons under your supervision to work unsupervised with hazardous chemicals until considered competent to do so
- Controlling exposure to carcinogens, mutagens and asthmagens to as low as reasonably practicable (ALARP) due to health effects
- Managing inventory of chemicals following department and university procurement rules, completion of ChemInventory, minimisation of work area inventory, safe storage, emergency procedures and waste disposal
- Not allowing or carrying out any work with hazardous chemicals until a defined waste disposal route has been determined (specified in the COSHH assessment)
- Ensuring risk assessments are regularly reviewed in accordance with risk assessment guidance and training
- Putting in place emergency arrangements to ensure persons under your supervision know what to do in the event of an incident

- Completion and signing of documentation required by chemical suppliers such as end user declarations as the person accountable for the use of the material
- Ensuring substances subject to regulatory requirements are used in accordance with the conditions set by the licence or supplier
- Records are kept of all training, reviews etc. and are up to date

### Persons working with hazardous chemicals

Responsibilities include:

- Working with chemicals in accordance with provided information, instruction and training including understanding of COSHH assessment
- Using any equipment provided for your safety such as fume hoods and PPE in accordance with instructions and training
- Not carry out any work unsupervised unless authorised by your PI / supervisor to do so
- Reporting any near misses, incidents or defects in any equipment, etc. provided for safe use

## COSHH Assessment

A COSHH assessment is the starting point for safely managing and using hazardous chemicals in your work area. It is a form of risk assessment with specific requirements that must be met to ensure it is “suitable and sufficient” under the COSHH regulations. It is a specific risk assessment as it covers only hazardous substances and manages the risk by identifying exposure pathways and appropriate control measures in accordance with a strict hierarchy. SHEW has produced a [COSHH Template](#) which if completed fully and correctly, should ensure these requirements are met. If departments wish to use their own, then they must be confident that the requirements of the legislation are met, i.e. it must contain all the requirements in the template provided as a minimum.

Safety Data Sheets (SDS) provided by chemicals suppliers (a legal requirement) aid in providing hazard information for the COSHH assessment. They are not a substitute for a COSHH assessment as they include generic statements for general use. You must assess your specific use including any by-products and waste generated. The key information in an SDS are the hazard phrases and statements. Just copying these into your assessment is not appropriate, as a person reading the assessment will not know what they mean. The hazard must be written out in full, for example do not just write H331, you must state “Toxic if inhaled” or summarise. This provides the information that this substance, if it must be used, must be used with LEV to protect against an inhalation hazard.

There are also precautionary statements that must be considered. An example is P405 Store locked up, which can often be overlooked.

Common Errors to Avoid:

- Over-reliance on PPE
- Using generic assessments without task-specific detail
- Failing to consider by-products such as fumes or dust
- Not communicating findings to workers
- Allowing assessments to become outdated

A step-by-step guide to producing a COSHH Assessment is included at Appendix 1.

---

## Chemical Inventory

Maintaining an inventory of hazardous substances in the workplace will aid in managing many of the aspects of safe handling of chemicals, including the minimisation of substances and waste, clear identification and appropriate storage of chemicals.

To facilitate this the University has purchased [ChemInventory](#); cloud-based chemical inventory software. It is now **mandatory** to use this software to manage your chemicals. Inventory completion will be tracked by your HoD with reporting to the department H&S Committee. All departments that use chemicals can have access to this software with an appointed administrator as the local contact who can provide appropriate access and help with queries.

Appropriate access must be in accordance with the responsibilities section of this CoP. Line managers and principal investigators are responsible for managing chemicals by people under their supervision, this includes everything from purchase to waste disposal, including inventory completion. This cannot be delegated to a *non-employee, i.e. UG student*. An UG student may have read access.

ChemInventory not only has benefits associated with managing the hazards from using chemicals but will also aid in meeting university targets for sustainable research, gain LEAF accreditation, reduce costs by sharing chemicals and aid in effective regulatory reporting.

## Classification and Labelling

The purpose of chemical classification is to ensure consistent hazard communication across the EU, supporting safe handling, use, transport, and regulatory control of chemicals.

The Classification Labelling and Packaging (CLP) Regulation (EC) No 1272/2008 establishes a duty to classify chemicals and set out the rules that should be followed.

Their aim is to improve:

- knowledge of chemical hazards, and
- how information about these hazards is passed to users so that chemicals can be used and disposed of safely

The CLP Regulation ensures that the hazards presented by chemicals are clearly communicated to workers and consumers in the European Union through classification and labelling of chemicals. It should be noted that while Great Britain has left the EU, the CLP Regulation remain in force as the [GB CLP Regulation](#).

From 1 June 2017, all substances and mixtures placed on the EU market had to be fully compliant with CLP.

CLP classification:

- Identifies hazards based on physical, health, and environmental effects
  - *Physical hazards* (e.g. flammable, explosive)
  - *Health hazards* (e.g. toxic, carcinogenic, corrosive)
  - *Environmental hazards* (e.g. aquatic toxicity)
- Assigns hazard classes and categories that reflect the type and severity of the hazard.

- Determines labelling elements, including:
  - Hazard pictograms
  - Signal words (Danger / Warning)
  - Hazard statements (H-statements in SDS)
  - Precautionary statements (P-statements in SDS)

A table of these pictograms with a brief description is included at Appendix 2.

It must be ensured that all labels remain intact and can be read clearly. Labels must not be removed or defaced. If labels become difficult to read or are damaged, then they must be replaced or the chemical disposed of. Ensuring all chemicals are on ChemInventory means that if labels do become inadvertently unreadable then there is a record to aid in relabelling/disposal.

Containers into which a chemical has been decanted must also be clearly labelled with the contents, date, owner and an appropriate hazard warning. Labels must be durable. These labels can be bought pre-printed to facilitate ease of use.



The above are examples for illustration only provided by SETON. Any labels may be used if they meet the criteria set out above.

Chemicals supplied and labelled prior to the introduction of the CLP Regulation (including pre-CLP/CHIP labelled substances and mixtures) may continue to be used, provided they were placed on the market before the relevant CLP deadlines and are already held in stock. These labels were pictograms on orange labels and therefore should be easily identifiable.

The following arrangements must be in place to continue use:

### **Supply and Redistribution**

- Legacy chemicals must not be supplied, sold, gifted, or transferred to another organisation or legal entity unless they are fully compliant with current CLP requirements.
- Internal movement between laboratories within the same organisation is permitted for institutional use only.

### Hazard Information and Risk Assessment

- A current Safety Data Sheet (SDS) must be accessible for all hazardous chemicals.
- COSHH risk assessments must be based on current CLP classifications and hazard statements, irrespective of the format or age of the container label.
- Academic supervisors are responsible for ensuring that hazard information used for risk assessment reflects current scientific knowledge.

### Labelling and Identification

- All chemical containers must remain clearly identifiable.
- Where original labels are missing, damaged, or unclear, replacement labels must be applied for internal use, including:
  - Substance name
  - Relevant hazard pictograms or wording
  - Reference to the SDS or local risk assessment
- Old (pre-CLP/CHIP) labels may remain in place if **they are legible and unambiguous**, but users must understand the equivalent CLP hazards.

## Storage

It is essential to store hazardous chemicals properly to prevent accidental release that could result in harm to health (and environmental and property damage). Chemicals must be stored in a way that prevents leaks, spills, reactions, and exposure while ensuring they remain clearly identified and accessible only to users (particularly for certain high hazard chemicals). Effective chemical storage considers compatibility, containment, labelling, ventilation, security, and emergency preparedness inherent in normal safe working practices.

For more detailed information please see: [Chemical Management: Storage and Inventory in Research Laboratories](#); this contains examples and a decision flow chart.

and [Chemical warehousing: The storage of packaged dangerous substances - HSE](#) (this applies to larger scale storage but has good principles to follow). A segregation chart from HSG71 is included as Appendix 3.

### Basic Principles of Safe Storage

Three basic principles should be applied for effective safe storage: isolation, segregation and separation. This is illustrated in Appendix 4.

#### Isolation

This is when chemicals must be stored separately from incompatible substances, ignition sources, and sensitive materials to prevent dangerous reactions, fires, or releases. Effective isolation reduces the risk of escalation if a spill, leak, or container failure occurs, i.e. flammables and oxidisers are stored apart in different locations, or flammables away from an ignition source (3m distance is recommended).

### Segregation

This is like isolation in that incompatible chemicals are segregated from each other, but this separation can be achieved by different storage locations, i.e. different cabinets, without the isolation distance. For example, corrosive cabinet in proximity to storage for health hazards.

### Separation

This is where chemicals can be stored in the same location, i.e. in the same cupboard but are separated (kept away from each other) in different boxes or shelves (with barriers between) depending on hazard. This is more appropriate for lower hazard chemicals, that do not require specific storage conditions, or in fridges and freezers.

### Types of Storage

Storage cabinets specific for certain hazards must be used. This is because they are purpose designed to a standard for that hazard. It is important that the right type of cabinet is chosen for the substances to be stored. Manufacturers/supplier information should be checked before purchase. They should have an appropriate Label showing the hazard in line with CLP. Storage cabinets should be inspected periodically to ensure they continue to provide the containment needed. Cabinets should be fixed/replaced if any damage or corrosion is identified. Cabinets come with a sump or bund in the bottom and tray shelving that act as the bund to capture liquid spills. It should be ensured that the shelves are installed correctly (the right way up) and that chemical containers are not stored in the bottom bund (shelf should be directly above).

### Acid or Corrosive Cabinets

These are made of corrosion-resistant material, such as a polyester or steel coating. They can be either acid specific, or for acids and alkaline substances. Oxidising acids should be stored in such a cabinet and isolated from flammable substances.

### Flammable Cabinets

Fire resistant metal cabinets are used for the storage of flammable substances. These offer fire resistance of at least 30 minutes, but can be up to 90 minutes, as required by British Standard 476. Extremely Flammable (H224) substances must be stored in a ventilated fire rated cabinet. Where possible this should be 90-minute fire rated.

### Ventilated Cabinets

These are cabinets fitted with forced ventilation and may be free-standing with their own extract system or positioned beneath a fume cupboard and attached to its duct. Ventilated cabinets are designed to safely store chemicals that have an inhalation hazard. These fumes are taken away from the work area by forced ventilation.

Hazard classification fatal, toxic and harmful by inhalation (H330, H331, and H332) must be stored in ventilated storage.

All others that may have an inhalation hazard, i.e. H333, H334, H335, etc., if possible, should be stored under ventilation, if not then should be stored in sealed secondary container or parafilm.

### Poisons cabinet

Please see sections on regulated poisons and other highly toxic chemicals. These substances will need to be access controlled by storing in a lockable dedicated cabinet. Any substance identified in the regulations or on the SDS as P405 Store locked up, must be kept in such a cabinet. If there is any reason to believe that

the cabinet is compromised in terms of security, such as a broken lock, or missing key, the cabinet must be replaced as soon as possible and alternative secure arrangements made for the substances immediately.

### Gloveboxes

Gloveboxes may be needed for storage of air or water reactive chemicals to provide a stable environment. If not possible then a dedicated metal cabinet will be required. For the latter desiccators as secondary containment should be used if possible.

### Minimum Storage Requirements

The following is the minimum that all areas must apply when storing hazardous chemicals.

- Apply the basic principles of safe storage to ensure chemicals are stored in a safe manner based on compatibility and hazard
- Store in appropriate type of storage cabinet. For flammables this is a minimum of a 30 minute fire rated cabinet.
- Prioritise chemicals hazardous by inhalation for storage under ventilation. (Please note fume cupboards are not storage areas).
- Store liquids in appropriately sized spill trays/bunds (110% of largest volume, if container sits in bund this volume must be considered). Containers in storage cabinets must not sit in bottom bund.
- Store solids separate from liquids, and if in same location store solids above liquids (prevents liquids spilling over contents below)
- Store chemical containers upright and in single layer. Do not stack on top of each other. This prevents damage, and allows damage, spills etc to be seen easily.
- Minimise inventory to what is required for the work (See DSEAR Guidance for flammable holdings limits)

A limited number of frequently used corrosive and flammable chemicals not representing a respiratory hazard (not fatal, toxic and harmful by inhalation) at volumes of less than 500 ml(g) (such as wash bottles) may be stored on shelves/benches, however numbers must be kept to a minimum. Separation from incompatible substances and ignition sources must still be done.

### Best Practice

- Store according to primary hazard classification, i.e. irritants, harmful, health hazard, flammable oxidiser, etc. This simplifies the requirement to ensure compatibility for most chemicals.
- Where possible use a 90-minute rated flammable cabinet for extremely and highly flammable substances (H224, H225). For H224 extremely flammable, the cabinet must also be ventilated.

## Transport

### Transport on campus

The transport of hazardous chemicals, including waste, between laboratories and buildings needs to be risk assessed and managed to minimise the potential for release from inadvertent drops or collision events leading to breakage, spills and potential exposure. The precautions implemented should be proportionate to the inherent hazard associated with the hazardous material and the transport route. More stringent requirements will be required between buildings, particularly where other persons (including members of the public) could be present.

- Ensure all containers are tightly sealed and undamaged.
- Transport containers should be suitably labelled to identify their contents.
- As a minimum all hazardous chemical containers should be in leak proof secondary containment when transporting outside the laboratory. This could be a lidded box, bag, vial holder or bottle carrier depending on what is being transported.
- Never carry a bottle of chemical by its top, loose or directly by hand.
- Always carry glass Winchester bottles (2.5 litres) in carriers or baskets that can provide proper support (i.e. safety carrier; bucket type with handle).
- Chemicals with a significant health risk such as acute toxicity, carcinogens or mutagens must be transported in more secure robust secondary containers.
- Add sufficient absorbent material to contain spills especially for liquids.
- Use foam inserts or compartments to prevent movement where there is a risk of breakage.
- The outside of chemical containers should be checked for the presence of any material and cleaned down, if necessary, prior to transport.
- Multiple items should be transported on a trolley with a lip or on trays to prevent containers sliding/falling off.
- Emergency procedures must be in place. Spill kits should be readily available for use in the event of an adverse incident during transport, and appropriate personnel trained in their use. Arrangements must be in place to summon assistance if required.
- Plan the transport route to use the most direct, low-risk route between buildings, avoid crowded areas where possible.

### Transport off campus

Transporting goods that are considered “dangerous” is regulated by the Department of Transport under the Carriage of Dangerous Goods (CDG) and Use of Transportable Pressure Equipment Regulations 2009 which implements ADR 2015 (European Agreement). Dangerous goods are liquid or solid substances and articles containing them, that have been tested and assessed against internationally agreed criteria - a process called classification - and found to be potentially dangerous (hazardous) when carried. Dangerous goods are assigned to different Classes depending on their predominant hazard.

Most of the chemicals that are used at the University and may require transportation off campus will not be subject to the requirements of these regulations due to their hazardous properties or exemptions due to quantities being transferred.

For example: Hydrochloric acid, the maximum receptacle (inner packaging) size is 1 litre. which means that as long as the individual “bottles” are not larger than 1 litre, and the box containing the bottles does not weigh more than 30 kg, then ADR does not apply.

Further guidance can be found on the HSE website: <http://www.hse.gov.uk/cdg/manual/index.htm>

Where CDG does not apply then the principles of this guidance document regarding packaging and labelling should be followed.

In addition, there may also be other rules and regulations which need to be considered when transporting of hazardous substances both within the UK and to other countries.

## High Hazard Chemicals

### Hydrofluoric Acid

Hydrofluoric acid is an extremely corrosive inorganic acid which can cause severe burns to skin and eyes. If contact with the skin occurs the fluoride ions readily penetrate and enter the deep tissue layers causing liquefaction necrosis of the soft tissues and decalcification and corrosion of the bone. The tissue destruction is accompanied by severe excruciating pain, although this may not be felt immediately. Therefore, safer alternatives should always be considered first before using this substance.

If use is deemed necessary, the COSHH assessment should detail appropriate precautions to be taken when using hydrofluoric acid. Anyone needing to use hydrofluoric acid must have adequate information and training on the hazards to health posed by it and the precautions to take to avoid them.

The work area must have restricted access and where practicable be dedicated to HF work to minimise the number of persons who could potentially be exposed. Lone working with HF is not permitted as emergency response in the event of an incident needs to be immediate. Personal Protective Equipment must include, as a minimum, safety goggles or where splashing could occur a full-face shield, laboratory coat with disposable apron or full body suit depending on quantities handled and HF resistant gloves. Gloves should be regularly checked for pinholes particularly before use.

Calcium gluconate should be readily available in the event of skin contact and Hexafluorine eyewash bottles in the case of eye contact. This includes being taken home, as symptoms may be delayed.

For detailed emergency procedures refer to [Emergency treatment of hydrofluoric acid \(HF\) burns and injury](#)

### Regulated Poisons

Regulated Poisons are defined in accordance with the Poisons Act 1972 and identified in the following legislation; [The Poisons List Order 1982 Part I](#). The following requirements only apply to the regulated poisons in Part 1 of this Schedule.

An example used at the University is cyanides (e.g. hydrogen cyanide, sodium or potassium cyanide). Exposure can be fatal, with rapid onset of symptoms noted following acute exposure. Symptoms may occur within seconds following inhalation and minutes following ingestion or dermal contact and include:

- irritation of eyes, nose and throat
- dizziness, nausea, weakness, headache or flushed skin
- rapid breathing progressing to slower, deeper breathing, unconsciousness and cardiorespiratory arrest.

There are also specific requirements regarding the provision of first aid in the event of exposure to cyanide compounds which must be available. HSE advises that oxygen administration is the most useful initial treatment for cyanide poisoning. This means where cyanides are used at least one person must be trained to administer oxygen.

For more information, please refer to [Cyanide poisoning - Recommendations on first aid treatment for employers and first aiders](#)

For this reason, regulated poisons should only be used where absolutely necessary for research purposes and where safer alternatives have been considered. A detailed COSHH assessment is required which justifies its use and identifies the necessary control measures. While a licence is not required to purchase, use or store these substances suppliers will ask for assurance, usually via an end user declaration form, that the substance will be used as per cited conditions. Purchase of such chemicals must be approved by a senior member of the department, such as the Head of Department or their Deputy. See **section 6(4)(b)** of [Control of Poisons and Explosives Precursors Regulations 2015](#).

In addition, the arrangements described below must also be applied to ensure control of access and use of these substances.

### Other Highly Toxic Chemicals

Highly toxic chemicals can be fatal if a person is exposed to even a very small dose. Under CLP classification these are chemicals assigned a hazard classification H300, H310 or H330 with acute toxicity category 1 or 2 which may be fatal at very low doses via inhalation, dermal or oral exposure. They may also come with the Precautionary Statement P405: Store Locked Up.

Therefore, less harmful alternatives should always be considered before using this class of chemicals. Where use is deemed necessary, control of these chemicals needs to be extremely robust to prevent accidental exposure depending on the identified exposure route. These chemicals must be stored with restricted access, in a lockable cabinet. Strict hygiene rules must be employed and where an inhalation risk has been identified they must be handled within appropriate containment. Local procedures must be put in place to ensure that their use is recorded in a register or logbook to ensure it is not misused or misplaced. An example log that could be used is in Appendix 5. Examples of highly toxic chemicals used at the University of Bath are sodium azide and cyanides as mentioned above.

### Carcinogens and Mutagens

Regulation 7(5) of COSHH includes special provisions for preventing or adequately controlling exposure to carcinogens and mutagens due to their more serious health effects.

#### Prevention of Exposure

The principal aim must be to prevent exposure to carcinogens or mutagens. Carcinogenic or mutagenic substances should not be used, or processes carried on, if you can use a suitable non-hazardous or less hazardous substitute. However, the COSHH assessment should consider the toxic and other properties of possible chemical substitutes when considering changes.

When synthesising chemicals, you should choose routes which:

- avoid, if possible, the use of carcinogenic or mutagenic substances at the start, or as part of any process or activity.
- avoid, if possible, the formation of by-products, intermediates, wastes or residual contaminants consisting of, or containing, carcinogenic or mutagenic substances.

### Adequate Control of Exposure

If it is not reasonably practicable to prevent exposure to a carcinogen or mutagen, there are specific measures and controls set out in Regulation 7(5) which must be put into place as well as adhering to the principles of good control practice. These include:

- totally enclosing the process and handling systems, unless this is not reasonably practicable.
- the control of exposure at source, including adequate ventilation systems and appropriate organisational measures such as maintenance procedures and reducing the level and duration of exposure.
- designating areas which may be contaminated by carcinogens or mutagens and using suitable and sufficient warning signs.
- 

### Use, Storage and Labelling

The following should also be applied:

- keep carcinogenic or mutagenic substances to be used in the workplace to the minimum needed for the process and store and transport them on site in closed containers, clearly labelled and with clearly visible warning and hazard signs. This also applies to waste that may be contaminated with these substances.
- clearly identify the areas in which exposure to carcinogens or mutagens may occur and take measures to prevent the spread of contamination within and beyond these areas. The number of people likely to be exposed to carcinogenic or mutagenic substances and the duration of their exposure must be kept to the minimum necessary for the work. Non-essential personnel must be excluded.

### Highly Reactive and potentially Explosive Chemicals

There are laboratory chemicals which can become highly reactive or potentially explosive when exposed to environmental conditions (e.g. heat, water, air, etc.). Others can become explosive when they encounter incompatible materials, are allowed to dry out, decompose or encounter sources of friction or mechanical shock. Due to the potential significant consequences of such a reaction, robust control measures to prevent a fire or explosion need to be implemented.

Measures required include:

- Keep all sources of ignition away from highly reactive or potentially explosive materials.
- Pyrophoric materials should be handled, stored and disposed of appropriately to ensure they are not exposed to adverse environmental conditions (air/water).
- Chemicals known to become explosive when dry should be regularly inspected and wetted if necessary (e.g. picric acid).
- Chemicals that are known to become explosive after a period (e.g. peroxide-forming chemicals) should be appropriately labelled and disposed of before the expiration date.

### Peroxide Forming Chemicals

Peroxide-forming chemicals are substances that can slowly react with oxygen in the air to form organic peroxides during normal storage or use. These peroxides are often highly unstable, shock-sensitive, and can explode if concentrated, disturbed, heated, or allowed to dry out. They typically have the hazard phrase EUH019 – May form explosive peroxides.

They are considered high hazard chemicals because:

- Peroxides can form without visible warning
- Concentration increases as solvents evaporate or distil
- Crystals may form around bottle caps or threads
- Detonation can occur from opening a lid, shaking, friction, or heat
- Explosions can be violent

Peroxide formation typically occurs when:

- A chemical is exposed to air (oxygen)
- Light or heat accelerates the reaction
- The material is stored for long periods
- The substance is partially evaporated or distilled

Typical Indicators of Peroxide Formation are:

- Crystals or solids in liquids
- Cloudiness or oily layers
- Crusts around lids or cap threads
- Containers that are misshapen or under pressure

Common Classes of Peroxide-Forming Chemicals are:

- Ethers (highest risk) such as Diethyl ether, Tetrahydrofuran (THF), Isopropyl ether, Dioxane
- Unsaturated Compounds; Styrene, Vinyl acetate, Acrylonitrile, Isoprene
- Alkali Metals and Organometallics; Sodium, Potassium, Potassium metal alloys
- Secondary Alcohols and Related Compounds (lower risk); Isopropanol, Secondary butanol, Acetaldehyde

Regular inspection and testing are therefore required to detect peroxide formation before it reaches a hazardous level during storage and use.

Visual inspection should be done before each use and at least every 3 months for unopened containers and monthly for opened containers and high-risk ethers.

Chemical testing, with Peroxide Test Strips, should be carried out as a minimum every 12 months, and every 3 months for higher risk chemicals.

If potentially unsafe conditions for any chemicals are observed then stop immediately, isolate the container, and contact your department technical team.

## Regulated Substances

Where regulated substances are in use, documented procedures should be 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).

### 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.

- 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 SHEW (the University currently does not hold such a licence as Schedule 1 substances are not used or held on campus).
- Ensure arrangements are in place to record the annual use of [Schedule 1, 2 and 3](#) substances as required by the CWC. This information must be reported to SHEW. It should be noted that the University does not need to report on schedule 3 substances, as it only applies to their export.
- SHEW will collate and report an annual declaration on behalf of the University of Bath to the CWC UK National Authority.

### Explosives

The University holds an explosives certificate allowing us to acquire and keep named materials in accordance with the terms and conditions of the certificate. The certificate is managed by SHEW and is issued and regulated by the Police.

Work with explosives is carried out only by authorised persons, in approved locations, within the limits set by the Explosives Certificate. Secure storage, strict inventory control, documented risk assessments, training, and immediate reporting of any incident or discrepancy are mandatory.

The Explosives Certificate applies only to specified substances, quantities, locations, and activities. Substances not covered by the current certificate cannot be acquired and kept at the University.

Activities conducted under the certificate are limited to approved research purposes and must not exceed the scope of authorisation.

Only named authorised individuals may handle or work with explosives covered by the certificate. There is a strict vetting process carried out by the Police prior to authorisation. You must not have access to explosives without this authorisation.

Explosives must be stored only in approved locations specified on the certificate. Storage arrangements meet requirements, where applicable, for:

- Physical security
- Segregation from incompatible substances
- Environmental controls

Access to storage areas to be strictly controlled and recorded.

Quantities held and used are limited to those authorised by the certificate and kept to the minimum necessary for research.

An accurate inventory must be maintained, including:

- Quantities held
- Locations
- Movements and use

Stock records are reviewed regularly and discrepancies investigated immediately. Robust arrangements are in place to prevent loss, theft, or unauthorised access.

### Explosives Precursors

Explosives precursors are subject to specific legal controls due to their potential misuse. The University must manage these substances in accordance with the Explosives Precursors and Poisons Regulations.

Any loss, theft, significant discrepancy, or suspicious enquiry or activity involving explosives precursors must be reported immediately to SHEW. Therefore, to facilitate this:

- An accurate inventory must be maintained, recording quantities held, locations, and authorised users.
- Stock levels are kept to the minimum necessary and reviewed regularly.
- Any unexplained discrepancy must be investigated immediately.

Explosives precursors may only be purchased following department approval and, where required by the supplier, completion of an End User Declaration. Declarations are authorised centrally, submitted to the supplier, retained with procurement records, and apply only to the approved substance, quantity, project, and users.

The explosives precursor must only be used as declared. Arrangements must be in place to ensure users are aware of this restriction.

## Information, Instruction and Training

People who use chemicals at work must receive information, instruction and training sufficient to protect their own health and safety and that of others. This should cover:

- Hazards of the chemicals (health, physical and environmental risks)
- How to read and understand labels and Safety Data Sheets (SDS)
- Safe handling, storage and disposal procedures
- Control measures to be used as identified in the risk assessment (e.g. ventilation, segregation, exposure limits)
- Correct use of PPE and its limitations
- Emergency procedures, including spills, fires and first aid
- What to do in case of accidental exposure

Training must be:

- Task-specific and risk-based

- Provided before work starts and updated when substances, processes or risks change
- Refreshed periodically and recorded

Training must be documented and records kept.

### Emergency Procedures

In the event of a serious incident, arrangements should be 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.
- Emergency procedures and arrangements are identified by risk assessments; this should consider what to do in the event of chemical exposure, 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. These spill kits should be checked regularly to ensure contents have been replaced when used and are in date.
- Additional emergency resources and training are provided where the COSHH assessment identifies the need for specialist provisions (e.g. self-contained breathing apparatus, gluconate gel).
- The use of any substance that poses a significant fire risk is brought to attention of the Area Safety Coordinator/Technical team and SHEW.
- Significant spills that have entered a watercourse, sewer or combined drainage system must be reported to SHEW, once it is safe to do so. They will arrange any necessary notification to the relevant authorities.

### Hazardous Chemical Waste Disposal

Chemicals and the waste produced covered by this document will likely be classified as hazardous and information regarding the disposal of hazardous chemical waste at the University of Bath is described in SHEW documentation and training modules which should be consulted regarding waste disposal requirements.

Hazardous chemical waste must be packaged and labelled in accordance with the principles in this document particularly those of segregation and identification, so that they can be safely transported and stored on campus until taken off site by a licensed waste carrier.

References

[The Control of Substances Hazardous to Health Regulations 2002. Approved Code of Practice and guidance](#)

[HSE Control of Substances Hazardous to Health \(COSHH\)](#)

[HSE A step by step guide to COSHH assessment](#)

[HSE Workplace exposure limits](#)

[HSE Principles of good control practice](#)

[Chemical Management: Storage and Inventory in Research Laboratories](#)

[Chemical warehousing: The storage of packaged dangerous substances - HSE](#)

## Appendix 1 COSHH Assessment Guidance

### Step 1: Identify Hazardous Substances

Identify all substances that may be hazardous to health, including:

- Chemicals (e.g. cleaning products, solvents, reagents)
- Dusts, fumes, vapours, gases, and mists
- Biological agents (e.g. bacteria, fungi, moulds)
- Substances generated by processes (e.g. welding fumes)

Include substances used occasionally, such as for maintenance, cleaning, or emergencies.

### Step 2: Gather Information

For each hazardous substance, gather relevant information, including:

- Safety Data Sheets (SDS)
- Substance classification and hazard statements
- Routes of exposure (inhalation, skin contact, ingestion, injection)
- Workplace Exposure Limits (WELs), where applicable
- Short-term and long-term health effects

### Step 3: Identify Who May Be Exposed

Identify all people who may be affected, including:

- Employees carrying out the task
- Other workers nearby
- Contractors, visitors, and cleaners
- Vulnerable individuals (e.g. young persons, pregnant workers)

Consider routine and non-routine activities.

### Step 4: Assess the Risks

Evaluate:

- How exposure could occur
- The severity of potential harm
- The likelihood and frequency of exposure
- Whether existing controls adequately reduce risk

### Step 5: Determine Control Measures

Apply the hierarchy of control:

1. **Elimination** – remove the hazardous substance or process

2. **Substitution** – use a less hazardous alternative
3. **Engineering Controls** – e.g. local exhaust ventilation (LEV), enclosures
4. **Administrative Controls** – procedures, training, supervision
5. **Personal Protective Equipment (PPE)** – gloves, respirators, eye protection

Controls must reduce exposure to as low as reasonably practicable.

### Step 6: Monitoring and Health Surveillance

Determine whether the work requires:

- Air monitoring or exposure testing
- Health surveillance (e.g. for dermatitis, asthma, respiratory disease)

Health surveillance is required where there is a reasonable likelihood of adverse health effects.

### Step 7: Emergency Arrangements

Ensure procedures are in place for:

- Spills, leaks, or accidental releases
- First aid and emergency exposure response
- Fire or uncontrolled reactions
- Safe waste disposal

Emergency equipment must be readily available and maintained.

### Step 8: Record the Assessment

Record the following:

- Substance and activity assessed
- Hazards and risks identified
- Control measures in place
- Monitoring or health surveillance requirements
- Actions, responsible persons, and timescales
- Date of assessment and assessor's name

Records must be in writing.

### Step 9: Information, Instruction and Training

Ensure users:

- Understand the hazards and control measures
- Are trained in safe working procedures
- Know how to use PPE correctly
- Understand emergency arrangements



Training must be appropriate, documented, and refreshed as necessary.





### Step 10: Review the Assessment

Review and update the COSHH assessment:

- At regular intervals (e.g. annually)
- When substances or processes change
- Following accidents or near misses
- When new health information becomes available

## Appendix 2 CLP Pictograms

Pictogram	What does it mean?	What to do?
 <p>Explosive</p>	Unstable explosive. Mass explosion hazard.	<p>Keep distance, wear protective clothing.</p> <p>Keep away from heat, sparks, flames or hot surfaces. No smoking.</p> <p>Acquire and keep in accordance with Explosive Certificate requirements</p>
 <p>Flammable</p>	Highly or extremely flammable gas, aerosol, liquid and vapour.	<p>Do not heat, or spray on an open flame.</p> <p>Use non-sparking tools, keep container tightly closed.</p> <p>Keep isolated from oxidising substances</p>
 <p>Oxidising</p>	May cause fire (or intensify it) or explosion.	<p>Do not heat. Wear protective clothing.</p> <p>If contact with clothes and skin, rinse with water.</p> <p>Keep isolated from flammable substances</p>
 <p>Gas under pressure</p>	May explode if heated, cause burns or injury.	<p>Protect from sunlight. Wear protective gloves, clothes, eye and face protection.</p>
 <p>Corrosive</p>	May corrode metals, cause severe skin burns and eye damage.	<p>Keep in original container.</p> <p>Wear protective gloves, clothes, eye and face protection.</p> <p>Store separately in purpose designed cabinets</p>


























 <p>Acute Toxicity</p>	<p>Can harm or kill if swallowed, inhaled or in contact with skin.</p>	<p>Handle with care. Do not eat, drink or smoke when using it.</p> <p>Use protective equipment.</p> <p>Avoid skin and eye contact.</p> <p>Store locked up.</p> <p>For inhalation hazard, store in ventilated cabinet.</p>
 <p>Serious Health Hazard</p>	<p>Respiratory sensitiser, mutagen, carcinogen, reproductive toxicity, systemic target organ toxicity, aspiration hazard</p> <p>May damage fertility or the unborn child, cause cancer, allergies or asthma symptoms, damage organs.</p>	<p>Read safety precautions before use. Avoid breathing dust or fumes. Store locked up. Call poison centre or doctor if respiratory symptoms.</p>
 <p>Health/Environmental Hazard</p>	<p>May cause allergic skin reaction or serious eye irritation; harm if swallowed or inhaled; harm to the environment.</p>	<p>Avoid skin and eye contact.</p> <p>Avoid release to the environment.</p>
 <p>Hazardous to the environment</p>	<p>Toxic to the aquatic life.</p>	<p>Avoid release to the environment.</p> <p>Collect spillage.</p>

Information provided by European Chemicals Agency (ECHA).

The table presents examples of what the pictograms mean and what the products could cause if not handled properly. It also provides some examples of safety measures to adopt when using these products. It is meant only for information purposes and when in doubt ALWAYS CHECK THE LABEL. More information at

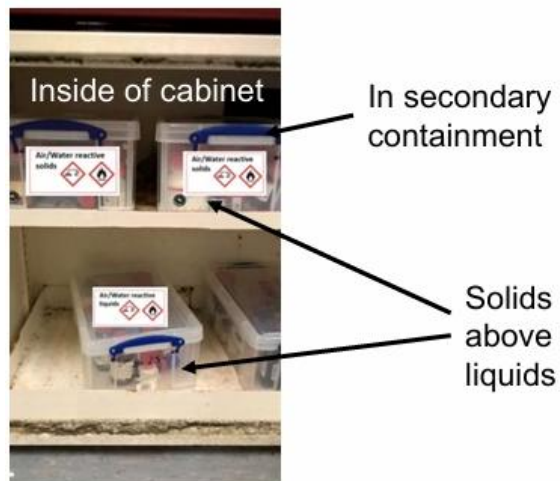
<https://chemicalsinourlife.echa.europa.eu/pictograms-infographic>

Appendix 3: Segregation of Hazardous Chemicals (HSG71)

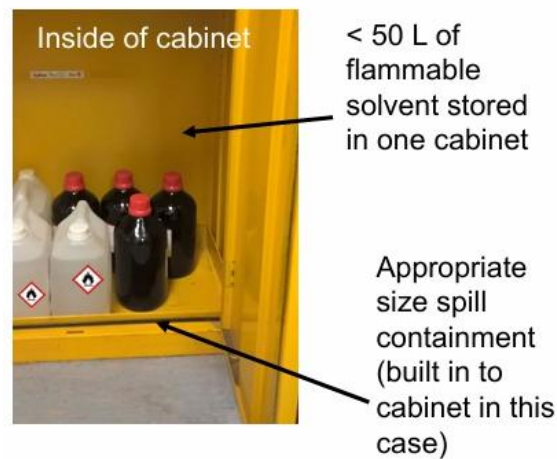
CLASS		1	2		3	4			5		6	8	
Chemical Segregation By Chemical Group.													
Explosive  1.0 Explosive 		Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From
Compressed gases 2.1 Flammable 		Segregate From	Keep Apart	Segregate from or Keep Apart	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	ISOLATE	Keep Apart	Keep Apart	Keep Apart
2.2 Non Toxic Non flammable 		Segregate From	Keep Apart	Keep Apart	Keep Apart	Segregation may not be necessary	Segregate From	Segregation may not be necessary	Segregation may not be necessary	Segregate From	Segregation may not be necessary	Keep Apart	Keep Apart
2.3 Toxic 		Segregate From	Segregate from or Keep Apart	Keep Apart	Segregate From	Keep Apart	Segregate From	Keep Apart	Segregation may not be necessary	Segregate From	Segregation may not be necessary	Keep Apart	Keep Apart
Flammable liquids 		Segregate From	Segregate From	Keep Apart	Segregate From	Keep Apart	Segregate From	Segregate From	Segregate From	ISOLATE	Keep Apart	Keep Apart	Keep Apart
Flammable solids 4.1 Readily combustible 		Segregate From	Segregate From	Segregation may not be necessary	Keep Apart	Keep Apart	Keep Apart	Segregate From	Segregate From	Segregate From	Keep Apart	Keep Apart	Segregation may not be necessary
4.2 Spontaneously combustible 		Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Keep Apart	Keep Apart	Segregate From	ISOLATE	Keep Apart	Keep Apart	Keep Apart
4.3 Dangerous when wet 		Segregate From	Segregate From	Segregation may not be necessary	Keep Apart	Segregate From	Segregate From	Keep Apart	Keep Apart	Segregate From	Segregation may not be necessary	Keep Apart	Segregation may not be necessary
Oxidising substances 5.1 Oxidising substance 		Segregate From	Segregate From	Segregation may not be necessary	Segregation may not be necessary	Segregate From	Segregate From	Segregate From	Keep Apart	Segregate From	Keep Apart	Keep Apart	Keep Apart
5.2 Organic peroxide 		Segregate From	ISOLATE	Segregate From	Segregate From	ISOLATE	Segregate From	ISOLATE	Segregate From	Segregate From	Keep Apart	Keep Apart	Keep Apart
Toxic 		Segregate From	Keep Apart	Segregation may not be necessary	Segregation may not be necessary	Keep Apart	Keep Apart	Keep Apart	Segregation may not be necessary	Keep Apart	Keep Apart	Segregation may not be necessary	Segregation may not be necessary
Corrosive 		Segregate From	Keep Apart	Keep Apart	Keep Apart	Keep Apart	Segregation may not be necessary	Keep Apart	Segregation may not be necessary	Keep Apart	Keep Apart	Segregation may not be necessary	Segregation may not be necessary

Appendix 4: Illustrations of Good Storage

Example of Separation within cabinet



Example of good storage of flammables in fire rated cabinet



Three Types of Storage

