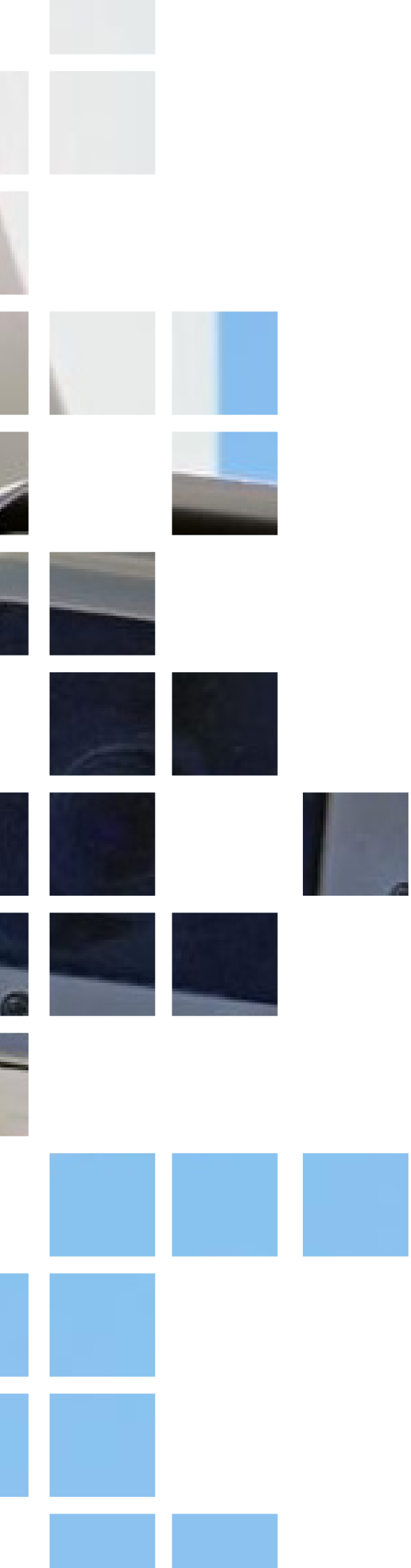
SYC

Secure Your Chemicals

Education



Home Office



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HSE

CLEAPSS

SSERC

1. INTRODUCTION

1.1. This guidance has been written in collaboration with the Health and Safety Executive (HSE), CLEAPSS and SSERC. The aim is to improve the security of hazardous chemicals that are used in secondary and tertiary education. This is to prevent them from being used to make illegal substances such as explosives or narcotics.

1.2. This guidance is aimed at users of hazardous chemicals within education. The guidance is supported by regulations (COSHH) and agreed best practice generated by the above-named professional associations and the Health and Safety Executive. It should be read in conjunction with the 'Secure Your Chemicals' (SYC) quick reference card. This document and the card are known as '**The SYC Code (Education)**'.

1.3. The control and accountability of hazardous substances are viewed as a crucial element of good practice in schools and colleges as well as in industry. There are many valid reasons why all those who come into contact with hazardous chemicals should maintain effective controls on the type of chemical, how much they have, and that it is stored in a safe and secure manner with access restricted. Such chemicals are often expensive and some have hazards such as toxic, corrosive, explosive, or flammable, which carries risks in their use, either alone or when mixed with other substances.

2. CURRENT LEGISLATION

2.1 The main regulation affecting the handling and use of hazardous substances is found under the Control of Substances Hazardous to Health Regulations 2002 (COSHH – as amended). COSHH requires employers to prevent or control the exposure to hazardous substances at work, to prevent ill health. Also see www.hse.gov.uk/coshh

2.2 The Health and Safety at Work Act makes general provisions for the control and keeping and use of explosive or highly flammable or otherwise dangerous substances. This includes the prevention of unlawful acquisition, possession and use of such substances.

2.3 The Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulations were introduced in 2007. They aim to provide a high level of protection for human health and the environment regarding the use of chemicals.

2.4 Schools and colleges already receive guidance, from CLEAPSS and SSERC, on storing and handling chemicals. This guidance is aimed at both meeting the legislative requirements and implementing good practice. It is intended to build on previous guidance issued to improve the security of hazardous and precursor chemicals.

3. MANAGEMENT RESPONSIBILITIES

3.1 It is the responsibility of the management at any site that holds hazardous chemicals, for whatever reason, to ensure that they are purchased, stored, used and disposed of in a safe and secure manner. The SYC code is designed to simplify this procedure and provide guidance that covers the following aspects:

- **Purchase**
- **Storage**
- **Use**
- **Disposal**

3.2 These four aspects can be managed by restricting the number of persons who have access to such substances and good record keeping. This will ensure that you can account for all your chemicals at all times.

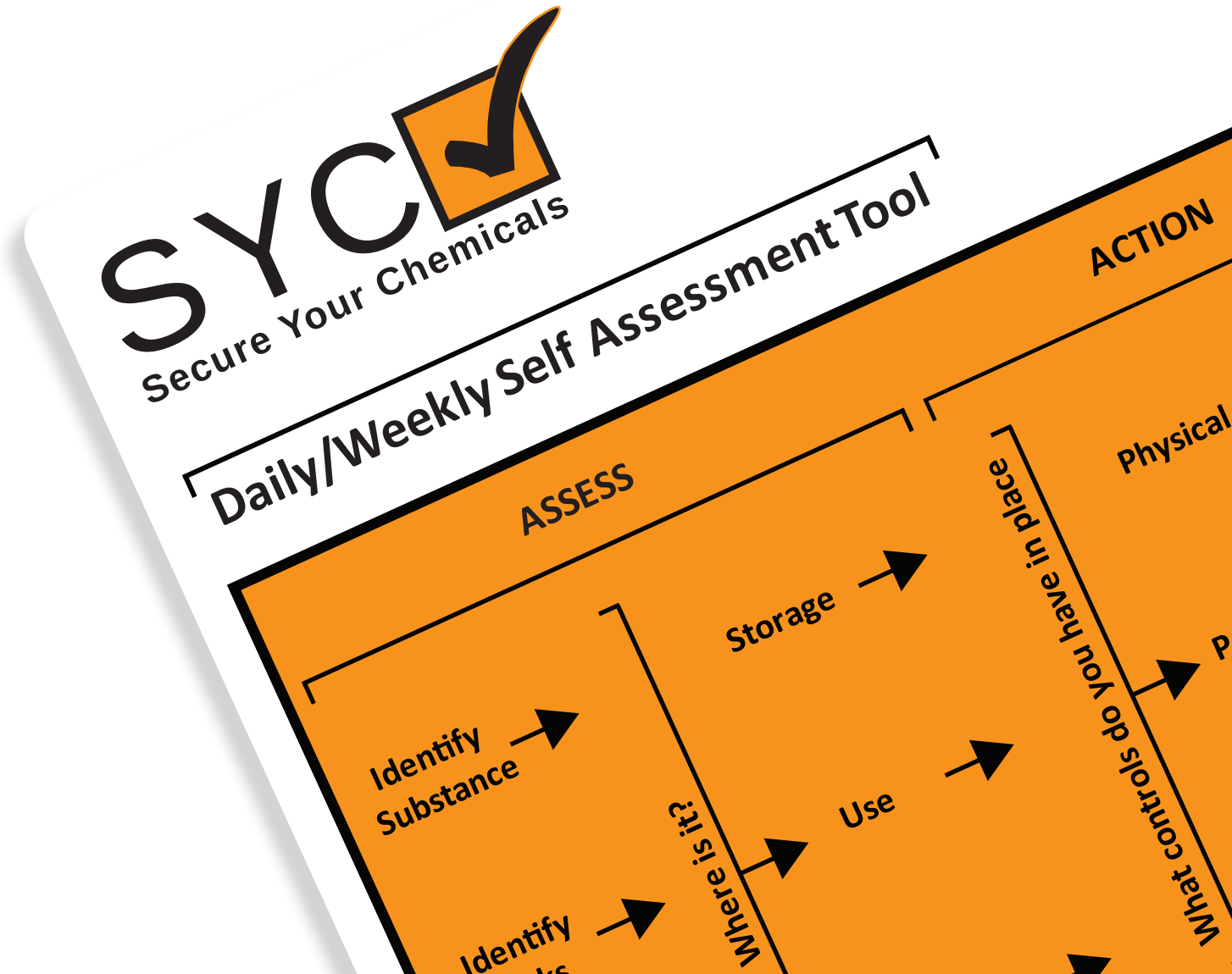
3.3 As a school or college you should already have guidance on what to do if you discover any chemicals are missing, and who to inform. In the future there may be additional guidance on certain specific chemicals. This may also cover the potential sale of chemicals, which is rare but not unknown, in schools and colleges.

4. ACCOUNTABILITY FOR CHEMICALS

4.1 The key question which **must** be answered is: 'Can you tell if anything has gone missing?' If you cannot, you need to use the guidance in this document to assess your procedures and take the proportionate action to ensure that you can answer 'Yes'.

4.2 The 'SYC' card (published separately) is a quick reference guide for a designated member of staff to become familiar with. It provides a series of questions and brief instructions to assist you in the action that needs to be taken. This document provides further guidance, some useful contacts and what to do if chemicals go missing.

4.3 Implementing the SYC Code need not impose any additional workload or expense. It is unlikely to require more than a refinement of existing practice. The processes in the code are given below.



Identify risks

The security of the chemicals you hold or use on site may not be exclusively a function of your own security. External factors can also have a significant effect.

For example, there maybe building work going on within school grounds, with unknown people having easy access to school buildings. Recent news stories or story lines within a TV drama documentary could put ideas into student's minds regarding the unlawful use of chemicals.

Questions you should therefore consider are:

- **Can you store your chemicals in secure storage and restrict access?**
- **How good are your physical security measures?**
- **Have you had any incidents which resulted from a failure in the security of chemicals?**
- **Do you maintain an audit of chemicals listed at the end of this document?**

Where is it?

Storage

Hazardous chemicals held in storage must be carefully monitored. Questions that you should consider are:

- **Is there a full stock list available of what you have and where it is held?**
- **Can you isolate the main stock and lock it away until it is needed?**

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Use

When chemicals are removed from storage for use, it becomes more important to know how much has been removed and that the amount removed has been used and/or returned. Questions you should consider are:

- **Do you use a lesson requisition sheet?**
- **Do you use this to maintain a full stock list with accountability for how much is used and when? For example, does the technician monitor the return of chemicals after lessons?**
- **Are laboratories checked for any substances that may be left behind?**
- **Who uses the hazardous chemicals and are they properly trained?**

Identify hazardous substances

What may appear to be harmless to some users could be seen as a significant hazard to others, especially if it becomes more dangerous when mixed with other substances.

This includes precursor chemicals that could be used to make drugs or explosives, as well as other substances that, when mixed, could produce toxic gases. If your school or college holds such chemicals, they need to be identified by a designated and suitably qualified member of staff and kept in appropriate conditions. If you are unsure, look at CLEAPSS / SSERC guidance.

ESS

Quantity on site

It is important to know how much of each chemical you have on your site. Refer to CLEAPSS/SSERC guidance. Questions you should consider are:

- How much of any one chemical do you have on site at any one time?
- How often do you conduct a stock check? Such checks include formal checks and informal ones done on a daily basis as chemicals are supplied for, and used in, lessons.
- Could you reduce the quantities held or use less hazardous alternatives?
- Are they kept in accordance with regulations and guidance?

Disposal

Many hazardous chemicals can still be a danger, even when they have been used in a process and all that is left is a residue. Questions you should consider are:

- How do you dispose of unwanted hazardous chemicals?
- How are hazardous chemicals stored before disposal?
- Do you use a suitably authorised disposal service?

There are some ‘companies’ operating illegally in the UK, offering to dispose of hazardous waste at discount prices. If in doubt, check with CLEAPSS or SSERC to ensure you are dealing with a qualified and registered hazardous waste company. If your hazardous waste is illegally dumped, you could be liable for it and any consequences.

Action

From the moment a hazardous chemical arrives at your school or college, you must be able to demonstrate full CONTROL of the chemical, and be able to ACCOUNT for it at all times, until its use or final disposal.

Having assessed what you have, how much you have and where it is, you now need to take action to place controls in the three key areas. The main focus for these controls should be procedural with effective, regular record keeping.

This is most easily and effectively achieved by restricting the number of people who have access to hazardous chemicals. Control measures can be imposed by:

- Physical measures
- People
- Admin

ACT

People

Regardless of how good your physical security measures are, bad practice by staff members can result in doors not being locked or hazardous materials being left in vulnerable places. The fewer people who have access to hazardous substances, the fewer people you will have to advise or train. Consider the following:

- Minimise the number of people who have access to hazardous chemicals.
- Ensure these people are correctly trained.
- Ensure they have the knowledge and means to maintain audits of chemicals.
- Provide them with a manager who they can confide in if they have problems, without fear of criticism or punishment.

TION

Admin

Record keeping is essential for schools and colleges to be fully accountable, so that they can clearly demonstrate what they are holding and in what quantities. An audit trail must include:

- What is delivered, when it is delivered, where it is stored, when it is used (or disposed of) and at what quantities.
- Totals held in stock.
- The ordering of chemicals must be limited to essential and authorised personnel only, and is optimised so that stocks are kept as low as reasonably possible.
- The onward sale of chemicals is not common in schools, and in the past has been restricted to chemicals used in photography. Such sales should only be enabled when you are in absolutely no doubt who the customer is, and that they have a lawful reason to possess such chemicals.

After a full stock check, you should now be in a position to answer the question: 'Can you tell if anything is missing? If the answer is 'Yes', you have completed this task successfully. If the answer is 'No', more work is required during the Assessment and Action stages.

Physical measures

Physical security controls do not have to cost a lot of money or generate a significant inconvenience. In schools and colleges securely locked doors coupled with well-sited chemical stores are generally sufficient. Such measures include:

- Good quality doors, windows and the frames that hold them.
- Solid walls (allowing for necessary ventilation).
- Strong locking devices.
- A building security alarm.

7. Report

7.1 If you discover that chemicals of security concern (as listed below) are missing from your school or you have identified suspicious behaviour relating to such chemicals, you must take the following action:

- **Double check that stock is missing with all staff members.**
- **Record as much detail as possible about missing stock or a suspicious incident. Include names, times, dates and list the name and quantities of the chemicals missing.**
- **Contact your local police if you find any of the chemicals listed unaccounted for.**
- **If you think that the loss may be related to terrorism contact the Anti Terrorist Hotline on 0800 789321.**

8. Good Practice

8.1 Hazardous chemicals are usually sold by reputable companies who belong to one of the main professional associations such as the Chemical Business Association (CBA) or the Chemical Industries Authority (CIA).

8.2 These associations have strict codes of conduct which ensure their members behave in a lawful and responsible manner. If you are approached by a company selling hazardous substances and you feel it may be suspicious, contact CLEAPSS, SSERC or the Chemical Business Association for verification.

9. Further information

If you are looking for further advice, the following agencies and websites have a wealth of information. You are strongly advised to look at these:

Health and Safety Executive
www.hse.gov.uk

Chemical Business Association
www.chemical.org.uk

Chemical Industries Association
www.cia.org.uk

National Counter Terrorism Security Office www.nactso.gov.uk

Environment Agency
www.environment-agency.gov.uk

CLEAPSS
www.cleapss.org.uk

SSERC
www.sserc.org.uk

This document has been developed and agreed with the grateful assistance of: HSE, CPNI, CLEAPSS and SSERC.

List of chemicals causing most concern

- Concentrated (glacial)Acetic/Ethanoic Acid, CH_3COOH
- Acetone/Propanone, C_3H_6O / CH_3COCH_3
- Alcohol (Ethanol, Methanol; solutions greater than 50%), C_2H_5OH / CH_3CH_2OH or CH_3OH
- Ammonium Nitrate(V), NH_4NO_3
- Anything Chlorate(VII) / Perchlorate, $NaClO_3$ / $KClO_3$ or $NaClO_4$ / $KClO_4$ /NH_4ClO_4
- Anything Nitrate, KNO_3 / $NaNO_3$
- Calcium Hypochlorite/Chlorate(I),$Ca(OCl)_2$
- Citric Acid, $C_6H_8O_7$
- Ethylene Glycol/Ethane-1,2-diol, $C_2H_6O_2$ / $HOCH_2CH_2OH$
- Glycerine/Glycerol/Propane-1,2,3-triol, $C_3H_8O_3$/$CH_2OHCH(OH)CH_2OH$
- Hexamine/HexamethyleneTetramine, $C_6H_{12}N_4$
- Concentrated Hydrochloric Acid,HCl
- Hydrogen Peroxide, H_2O_2
- Lead Nitrate (V),$Pb(NO_3)_2$
- Mercury, Hg
- Methyl Ethyl Ketone/Butan-2-one, C_4H_8O / $CH_3COCH_2CH_3$
- Concentrated Nitric (V) Acid, HNO_3
- Nitrobenzene, $C_6H_5NO_2$
- Nitromethane, CH_3NO_2
- Pentaerythritol/2,2-Bis(hydroxymethyl)1,3-propanediol, $C_5H_{12}O_4$ / $C(CH_2OH)_4$
- Solid Potassium Permanganate/Manganate (VII), $KMnO_4$
- Powdered Metals (Aluminium (Al), Magnesium (Mg), Magnalium (Al/Mg), Zinc (Zn))
- Sodium Azide, NaN_3
- Sulfur, S
- Concentrated Sulfuric(VI) Acid, H_2SO_4
- Urea, CH_4N_2O / $CO(NH_2)_2$

