Gulf English School
مدرسة الخليج الإنجليزية

Science Department Health and Safety Policy

Created by:	Science Department
Reviewed by:	Israr Shah
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1.0 Introduction

This Science Department Health and Safety Policy should be read in conjunction with the employer's general Health and Safety Policy and, where separate, the detailed arrangements for implementing that policy in this school. The purpose of this document is to record the arrangements made in the science department to implement the policy in accordance with any Code of Practice or Guidance issued by the employer.

THIS DOCUMENT IS MAINTAINED BY THE SCIENCE DEPARTMENT. IT IS KEPT AVAILABLE FOR CONSULTATION BY STAFF AND FOR INSPECTION BY VISITING HSE INSPECTORS OR A REPRESENTATIVE OF THE EMPLOYER.

A copy of this document has been lodged in the school office and another passed to the employer for endorsement.

The science department will cooperate with any inspector or representative of the employer to promote health, safety and welfare and will address any matters raised by or through such a representative in a manner appropriate to the level of risk.

1.1 General aims

It is the duty of all members of the science staff, i.e., teachers, staff who work in the department occasionally, technicians and other support staff (e.g., auxiliary staff and bilingual staff):

- to take reasonable care for the health and safety of themselves and other persons who may be affected by their acts or omissions during work;
- to be familiar with this health and safety policy by periodic reference to it;
- to look out for any revisions;
- to follow its provisions, and
- to cooperate with other members of staff in promoting health and safety.

1.2 Duties and Functions or Tasks

The employer, Gulf English School, has the ultimate duty to ensure the health and safety of employees and others on the site.
The task of overseeing health and safety on this site has been delegated by the employer to the School Director. Within the science department, this task is further delegated to the Head of Science (Alex Nunn) who has the particular function of maintaining this policy document. The next major review of this policy will take place before *June 2026.*

1.3 Risk Assessments

Every employer is required under various regulations[1] to supply employees with a Risk Assessment before any hazardous activity takes place. (Hazardous activities, common in science departments, are listed in the publications described in Appendix 2.) Because it is impracticable for the employer to write risk assessments for each of the many activities in school science, this employer follows the HSC recommendation to adopt published 'model' or 'general' risk assessments, which school science departments adapt to their local circumstances. See Appendix 2 for the list of publications adopted by this employer.
Whenever a new course is adopted or developed, all activities (including preparation and clearing work) are checked against the model risk assessments and significant findings are incorporated into the scheme of work. (described in CLEAPSS guide L196, *Managing Risk Assessment in Science*).
If a model risk assessment for a particular operation involving hazards cannot be found in these texts, a special assessment is obtained, following the employer's instructions, from CLEAPSS.

In order to assess the risks adequately, the following information is collected:

- details of the proposed activity;
- the age and ability of the persons likely to do it;
- details of the room to be used, i.e., length, width and height, availability of services and whether or not the ventilation rate is good or poor;
- any substance(s) possibly hazardous to health with concentrations of solutions;
- the quantities of substances hazardous to health likely to be used;
- class size, and
- any other relevant details, e.g., high voltages, heavy masses, etc.

Since the scheme of work has been checked against the model risk assessments, staff should **not** deviate from it, unless their proposed activities have been agreed with the Head of Science.

Where an activity must be restricted to those with special training or receiving that training (Appendix 6), that restriction is included in a note on the point-of-use text.

[1] Risk assessments are required by the *Control of Substances Hazardous to Health Regulations* 1994, the *Management of Health & Safety at Work Regulations* 1992 and others.

2.0 Equipment and resources

2.1 Fume cupboards

The COSHH Regulations 1994 require the regular testing of fume cupboards (maximum interval 14 months) with a quick check before use. The Head of Science has the function of seeing that this happens. Copies of completed forms are kept in the Safety Check File[2], available for staff reference and for inspection by the employer's representative or an HSE Inspector.

All users have been trained to carry out a quick check that a fume cupboard is working before use.

2.2 Electrical testing

To meet the requirements of the Electricity at Work Regulations 1989, this employer requires portable electrical equipment to be inspected and tested regularly. The Head of Science has the function of seeing that this happens within the science department.

This work will be carried out by the trained technician using a proper earth-bonding and insulation test set. For details and the schedule to be completed, see Appendix 4. Completed schedules are kept in the Safety Check File and are available for staff reference and for inspection by the employer's representative or an HSE Inspector.

See Appendix 1 for the names of the staff members currently with these functions.

All users have been trained to carry out a quick visual inspection before using mains-powered equipment.

2.3 Radioactive sources

This English international school follows the provisions of AM 1/92, *The use of ionising radiations in education establishments in England and Wales.* The Local Rules for the use of ionising radiations (Appendix 5) have been drawn up in consultation with the RPA and it is a function of the RPS to see that they are adhered to.

The History of the Radioactive Sources (i.e., authority to purchase, record of delivery, details of events in the life of the source and eventual certificate showing method of disposal) is kept in the radioactive sources file in the Chemistry preparatory room (first floor).

2.4 Pressure vessels

Autoclaves, pressure cookers and model steam engines need periodic inspection under the Pressure Systems and Transportable Gas Containers Regulations 1989.

In accordance with this employer's Code of Practice, [the appropriate written scheme of examination is selected from CLEAPSS Guide L214b, certified by the Head of Science or Subject and used by the competent person (see Appendix 1) to carry out the examination] / [the examination is carried out by the inspector employed by the insurance company who uses a written scheme of examination provided by [the company] / [CLEAPSS]] / [the examination is carried out by the inspector employed by the local education authority who uses a written scheme of examination provided by [the LEA] / [CLEAPSS] / [an insurance company]]. Records of examinations are kept in the Safety Check File.

2.5 Animals, plants and microorganisms in schools

The hazards associated with the use of animals, plants and microorganisms are discussed in texts listed in Appendix 2, which also give advice on controlling them.

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[2] The Safety Check File is a ring binder kept in the preparatory room.

2.6 Equipment safety

All staff selecting equipment for purchase will check that it is safe and suitable for the intended purpose (to comply with the *Provision and Use of Work Equipment Regulations 1992*). Equipment listed by specialist educational equipment suppliers is taken to meet these Regulations but all other equipment, especially gifts, is treated with caution and carefully assessed. Advice on safety and suitability is sought from CLEAPSS through publications and directly.

Equipment restricted to those users who have received or are receiving special training (see 8, Training Policy and Appendix 6) is labelled accordingly.

Any user who discovers a hazardous defect in an item of equipment must report it to the Head of Science. A logbook of safety concerns is also kept in the preparatory room.

2.7 Personal protective equipment

The employer accepts the duty to provide eye protection, gloves and laboratory coats for employees where the risk assessment requires them (*Personal Protective Equipment at Work Regulations 1992*). Prescription safety spectacles are to be ordered from any optician and the employer will meet the extra cost of the safety features. Laboratory coats are supplied by the employer and laundered by the member of staff who uses it.

The employer expects eye protection to be available for pupils and visitors. Goggles or face shields to chemical splash standards are worn whenever there is a risk to the eyes.

The condition of the eye protection is checked regularly (see 7.0 Monitoring and Appendix 13).

2.8 Chemicals

Offers of gifts of chemicals are viewed with extreme caution to ensure that stocks are not increased unduly and that no unwanted chemicals are included.

The task of arranging safe storage of chemicals, including highly flammable liquids, is given to the Technician (Rosaline Mathew) who will see that labels are readable and that a spill kit is to hand and properly replenished. Keys to the Chemical store are to be held by the Technician and the Head of Science.

Hazardous activities involving chemicals restricted to those who have received or are receiving special training (see 5.0 Training Policy and Appendix 6) are identified on the point-of-use texts as part of the risk assessment (see, 1.3 Risk Assessments).

2.9 Manual handling

All regular operations involving lifting or carrying equipment, pushing trolleys, etc will be assessed to see if any may give rise to risks of injury (*Manual Handling Operations Regulations 1992*) by a team consisting of the school's Safety Coordinator and the technical staff. Occasional (i.e., one-off) manual-handling operations will be assessed by the staff member(s) before attempting them. Problems will be reported to the school's Safety Coordinator.

See Appendix 1 for the names of the staff members currently with these functions.

2.10 Security

Access to laboratories and preparation rooms will be controlled to comply with the *Management of Health & Safety at Work Regulations 1992*. All laboratories, preparation rooms and store rooms are to be kept locked at all times except when in use. All laboratories which are left open are cleared of all hazards, including shutting-off all services when supervision by a qualified science teacher comes to an end. No class is allowed to carry out practical work in a laboratory without supervision by a qualified science teacher, familiar with the departmental safety procedures. In the unusual circumstance of any non-science staff being required to lead practical work, adequate training in laboratory rules will be provided. Science department buildings should be locked at the end of each teaching session in order that students do not gain unsupervised access. See also Appendix 11.

2.11 Concern for others

All science areas are made safe for cleaners or contractors to work in before these persons are allowed to proceed.

2.12 Outdoor activities

When planning any field trips etc, staff consult one or more of the following: the employer's code of practice, the CLEAPSS *Laboratory Handbook*, *Managing Out-of-classroom Activities*, Geographical Association. The Head's PA will also give advice on planning out of school activities/trips and the procedure required for risk assessment in these cases.

2.13 Local Code of Practice

Staff will follow instructions from the employer, whether temporary or long term as expressed in the employer's Code of Practice. Copies of temporary instructions are attached to this policy in Appendix 7 as are recently rescinded (lifted) instructions.

3.0 Emergency procedures

3.1 Fire

Science staff will follow the normal school procedures in case of major fires. All science staff are trained to deal with minor bench fires, clothing fires and hair fires (see Appendix 8)

Advice on fire fighting is given in chapter 14 of *Topics in Safety* and in section 4 of the CLEAPSS *Laboratory Handbook*.

3.2 Spills

Spills of any volume which do not give rise to significant quantities of toxic or highly-flammable fumes ('minor spills') are dealt with by teachers or technical staff using a 'spill kit' prepared for this purpose. Advice on dealing with spills is given in chapter 7 of *Safeguards in the School Laboratory* and in section 7 of the CLEAPSS *Laboratory Handbook*. Spill kits consisting of absorbent cat litter are available in each laboratory. Absorbed spills should be transferred to a bucket and taken to the prep. room for appropriate treatment.

Major spills are those involving the escape of toxic gases and vapours or of flammable gases and vapours in significant concentrations. (Small volumes can be 'major spills' if spilt in small rooms.) Staff are aware of the appropriate procedures (see Appendix 9).

3.3 Injury

Science staff will follow the normal school procedures in cases which require first aid (see Appendix 10). They will carry out immediate remedial measures, while waiting for first aiders, after the accidents, which occur in science. See Appendix 8 and the CLEAPSS *Laboratory Handbook* section 5.
See Appendix 1 for the name of the person responsible for coordinating training in remedial measures.

3.4 Reporting procedures

Dangerous occurrences, injuries or suspected injuries to a pupil or a member of staff and instances of damage or theft will be reported using the standard school procedures. See Appendix 10.

4.0 Science department rules

The Guidelines for Science Staff are contained in Appendix 11 and the Rules for Pupils in Appendix 12.

5.0 Training policy

The person with the task of seeing that training is provided is the Head of Science. Particular training functions are delegated as follows:

- induction of newly-appointed technicians - the Senior Technician
- safety aspects of the work of newly qualified teachers - the Head of Science
- safety of students on teaching practice - the Head of Science and the supervising teacher.
- safety of non-science teachers using laboratories - the Head of Science
- manual handling for all staff using laboratories – the school Safety Coordinator
- safe procedures for laboratory cleaners - the school Safety Coordinator
- training in the use of specialist equipment, chemicals or procedures - the Head of Science and the science health and safety officer.
- safety training of non-science support staff - the Head of Science
- regular update training covering new or changed regulations, new equipment etc - the Head of Science.

6.0 Communications

It is acknowledged that communication of safety information is of the greatest importance and is the task of the Head of Science.

In this department, all staff are issued with this Policy and Appendix 1 whenever it changes and Appendix 11. The main copies are kept in the Safety Check File in the departmental office and the main prep room.

Any new instructions, restrictions or rescinded (lifted) restrictions made by the employer are communicated to all staff in writing as well as being attached to this policy (Appendix 7).

7.0 Monitoring

The employer expects the science department to monitor the implementation of this policy and the employer's Code of Practice for Science. Records of monitoring are kept in the Safety Check File.

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8.0 Appendix to the health and safety policy

Appendix 1 Names of staff with particular functions

The task of overseeing health and safety in the Science Department is delegated to the **Head of Science** who is ***Alex Nunn*** who is responsible for checking staff risk assessments for all practical work on the Lab logger (online risk assessment) platform.

Ms Najla Kaidbey **Health and Safety QA officer** for the labs and prep room, has been delegated to conduct a weekly Health and Safety check and will report to the Head of Science and and the Head of Secondary School. Checks will include the following as recommended by CLEAPSS:

- First Aid Equipment
- Fire fighting Equipment
- Personal protective equipment
- Exit /passages
- Electrical supply
- Gas supply
- Water supply
- Fume Cupboard
- Floors/Doors
- General storage and disposal of Chemicals

Appendix 2 Publications to be used as model risk assessments

The employer has endorsed the use of the following publications as sources of model (general) risk assessments.

CLEAPSS, *Hazcards*, CLEAPSS[3], 1995 or later
CLEAPSS, *Laboratory Handbook*, CLEAPSS2, 1997 or later
ASE, *Topics in Safety*, ASE, 1988 (2nd edition), ISBN 0863571042

These publications may be useful for reference:

ASE, *Safeguards in the School Laboratory*, ASE, 1996 (10th Edition), ISBN 0863572502
DfEE, *Safety in Science Education,* HMSO, 1996, ISBN 011270915X
Hazards in the Chemical Laboratory, G. D. Muir, The Chemical Society, 1977
Hazardous Chemicals, SSERC, Oliver and Boyd, 1989
Safety and Laboratory Practice, M. D. Hawking, Cassell, 1988

Other guidance is issued from time-to-time by:
the Department for Education and Skills;
the Association for Science Education;
the CLEAPSS School Science Service;
For example, on ionising radiations:
CLEAPSS, *Ionising Radiations and Radioactive Substances*, CLEAPSS, 1992, Ref L93
DfEE, *The use of ionising radiations in education establishments in England and Wales*, DfEE, 1992, Ref No AM 1/92

On more general matters:
Pheasant and Stubbs, *Manual Handling - An ergonomic approach*, National Back Pain Association, 1994, ISBN 0950772682
CLEAPSS, *Monitoring the implementation of science safety policies*, CLEAPSS, Aug 1997, Ref No PS 30
DfEE, Fume Cupboards in Schools, (Building Bulletin 88), HMSO, 1998, ISBN 0112710271 (Replaces Design Note 29)
Health and Safety information is published by SSERC in its *Science & Technology Bulletin*. These articles are often of general interest but are, of course, of particular application in Scotland. SSERC also publishes training materials on meeting the COSHH Regulations, the Pressure Systems and Transportable Gas Containers Regulations and the Electricity at Work Regulations.
Regular updates on safety matters are contained in the CLEAPSS *Bulletin* and the ASE's *Education in Science*.

[3] CLEAPSS School Science Service, Brunel University, Uxbridge, UB8 3PH.
Tel: 01895 251496; Fax: 01895 814372; E-mail: science@cleapss.org.uk

Appendix 3 Monitoring fume cupboards: guidance notes and forms

The records of the tests are in the Safety Check File.

Appendix 4 Notes and schedule for the examination and testing of portable mains-operated equipment

This employer requires school staff to inspect and test portable electrical equipment used in the science department within Gulf English School.
Details and a suggested schedule are in the CLEAPSS *Laboratory Handbook* Section 6 and Chapter 3 of *Topics in Safety* (based on guidance from the HSE). Later guidance from this source (IND(G)160L 2/94) allows the frequency of testing to be adjusted in the light of experience: items which suffer much wear or abuse need testing more frequently than once per year while items which are never moved or used only rarely can be tested less frequently.
The records of the tests are in the Safety Check File.

Appendix 5 Local rules for ionising radiations

This employer's RPA has agreed Local Rules for the use of ionising radiations. These are taped to the box containing the radioactive sources and should be consulted before the sources are taken out.

Appendix 6: Equipment or activities restricted to those users who have received or are receiving special training

This employer permits the following activities to be carried out only by persons who have received appropriate (in-house) training.

- Chemical reactions with particular hazards: i.e., using alkali metals, phosphorus, the thermit reaction, the reduction of copper oxide with hydrogen or magnesium.
- Equipment supplying or using high voltages: e.g., all mains-powered equipment, HT power supplies, high-voltage electrophoresis apparatus, the power line demonstration.
- Equipment with hot or moving parts: e.g., hotplates or fractional horsepower motors.
- High pressures: e.g., pressure cookers, autoclaves, steam engines and compressed-air systems.
- Human physiology equipment: e.g., sphygmomanometers and spirometers
- Technician tasks, e.g., diluting strong acids, handling strong alkalis, clearing up spills, disposal of residues, glass handling, fitting mains plugs and regular inspections of electrical equipment, microbiology: preparation tasks and disposal procedures.
- Use of microorganisms at levels 2 and 3.
- Starch test (ethanol/iodine)
- The reducing sugars test (Benedicts)
- Preparation of Cl_2
- Burning magnesium ribbon
- Using spirit burners
- Using conduction rods
- Exploding hydrogen or hydrogen/oxygen mix
- Sodium thiosulphate and hydrochloric acid reaction

Appendix 7 Local instructions from the employer

There are currently no local instructions attached.

Appendix 8 Remedial measures for science staff

IMMEDIATE REMEDIAL MEASURES

What Science Staff should do while waiting for first aid

The First Aid Regulations do not necessarily require there to be a qualified first aider among science staff, yet this is clearly desirable. Nevertheless, all staff have a duty to carry out remedial measures immediately while waiting for first aid or professional medical treatment. The following advice covers common laboratory accidents and is intended as a supplement to any local guidance on dealing with non-laboratory events, e.g., epileptic fits.

Chemical splashes in the eye

Immediately wash the eye under running water from a tap for at least 10 minutes and for much longer in the case of alkalis. The flow should be slow and eyelids should be held back. Afterwards, the casualty should be taken to hospital (with irrigation continuing during the journey for an alkali in the eye).

Chemical splashes on the skin

Wash the skin for 5 minutes or until all traces of the chemical have disappeared. Remove clothing as necessary. If the chemical adheres to the skin, wash gently with soap.

Chemicals in the mouth, perhaps swallowed

Do no more than wash out the casualty's mouth. After any treatment by the first aider, the casualty should be taken to hospital.

Burns

Cool under gently running water until first aid arrives.

Toxic gas

Sit the casualty down in the fresh air.

Hair on fire

Smother with a cloth.

Clothing on fire

Smother by pushing the casualty to the ground, flames on top. Spread a thick cloth or garment on top if necessary. A fire blanket is ideal but use only if very close by.

Electric shock

Taking care for your own safety, break contact by switching off or pulling out the plug. If it is necessary to move the casualty clear, use a broom handle or wooden window pole or wear rubber gloves. If casualty is unconscious, check that airways are clear and begin artificial ventilation if necessary.

Severe cuts

Lower the casualty to the floor and raise the wound as high as possible. Apply pressure on or as close to the cut as possible, using fingers or a pad of cloth. Protect yourself from contamination by blood. Leave any embedded large bodies and press round them.

Appendix 9 Emergency procedures

If a major spill of a fuming substance occurs, the staff will ask the fire service to deal with it, warning it that breathing apparatus will be needed.

These numbers are displayed near the telephone[s]:

Emergency	Body	Telephone number
Serious accident	**Ambulance** **First aider**	**112** **Nurse**
Chemical spill	**CLEAPSS** **SSERC** **Head of Science**	**+44 1895 251496** **+44 131 558 8180** **69902624**
Radiation accident	**Hospital** **RPA**	
Animal welfare	**Veterinary practitioner**	

Appendix 10 School injury reporting procedure

Following an injury, so that the Regulations (RIDDOR) can be complied with, the incident must be recorded on an incident from which can be obtained from Ms Leen, Head's PA.

Appendix 11 Guidelines for science staff

All teachers, technicians and support staff

1. Teachers and technicians have a general duty to take reasonable care for the health and safety of themselves, of other members of staff and of pupils. They have specific duties: to be familiar with this health and safety policy, its updates, appendices and the safety texts it refers to. They must observe the requirements of this policy and fulfil any special responsibilities it gives them. They must cooperate with colleagues in their specific safety duties. They have a duty to report to local management any failure of equipment, which has a safety function.
2. Staff practice must set a good example to pupils and be consistent with pupil laboratory rules, e.g., over the wearing of eye protection.
3. Staff must be familiar with emergency drills and familiar with the location in each science room of: the escape route; fire-fighting equipment; the nearest first-aid box, eye wash station; the main gas cock; the main electricity switch, the main water stop cock, the broken glass disposal bin and the spill kit.
4. Laboratories must be left safe. Special arrangements must be made for equipment which has to be left running overnight and hazardous equipment, which has to be left out. In general, all gas taps should be completely turned off and all mains-operated apparatus switched off. At the end of the day, if practicable, gas should also be turned off at the laboratory main gas cock and electricity at the laboratory main switch.
5. Eating, drinking, smoking and the application of cosmetics should not take place in laboratories, preparation rooms or storage areas.
6. A teacher or technician must assess the risks very carefully before conducting any practical operation in the laboratory when alone in the science department. Nothing should be done which could lead to an accident needing a remedial measure. (See Appendix 8.)
7. In general, pupils must not be left unsupervised in a laboratory or Science building. Staff needing to leave a class briefly must assess the risks of doing so, perhaps arranging for temporary supervision by a neighbouring member of staff. Special arrangements may be needed for senior students doing project work depending on the hazards involved.
8. Science laboratories, preparation rooms and stores should be locked by the staff when not in use, unless so doing hinders an essential fire escape route. They should be available for teacher-supervised club activities only by special arrangement.

Teachers

1. At the beginning of each school year, teachers must make sure that their classes have copies of the pupil rules and issue them if necessary. They should be stuck in an exercise book, work folder or similar place.
2. Teachers must enforce the pupil laboratory rules, reminding pupils of them often enough for them to be familiar. With new pupils, time should be spent explaining them, with appropriate demonstrations.
3. Lesson preparation should be adequate and include checking on risk assessments and, where necessary, the safety precautions required. Time should be allowed for consulting more senior colleagues where there is any doubt and to try out

experiments, particularly those involving hazard. Teachers should explain precautions to pupils as part of their health and safety education.

4. Open-ended investigations must be so organised that the teacher can assess any risks and lay down precautions before any hazards are met.
5. If, because of large class size or indiscipline, safety cannot be maintained during certain practical work, the work should be modified or abandoned, or the student removed from the lesson. This decision should be reported to the Head of Science so that appropriate measures can be taken to inform the student's parents and so that suitable work may be given in place of practical work.
6. A teacher is responsible for the safety of any of his/her classes taken by a student teacher. If the normal class teacher is absent, another science teacher must be given this responsibility by the science coordinator.
7. When requisitioning equipment it is necessary for teaching staff to give details of any hazards involved in the preparation or disposal of the equipment, using the requisition sheets provided, until the Risk Assessments are updated accordingly.

Appendix 12 Rules for pupils during science lessons

1. You must not do anything with equipment or materials unless told to do so by a teacher. You must follow instructions precisely.
2. You must wear eye protection when told to do so and keep it on until told to take it off when *all* practical work, including clearing away, is finished.
3. When instructed to use a Bunsen burner, make sure that hair, scarves, ties etc are tied back or tucked in to keep them well away from the flame.
4. When working with liquids, normally stand up; then you can move out of the way quickly if there is a spill.
5. Never taste anything or put anything in your mouth when in the laboratory unless your teacher tells you to do so. This includes sweets, fingers and *pencils*, which might have picked up dangerous chemicals from the bench.
6. If small amounts of chemicals or microbiological cultures get on your hands or any other part of the body, wash them off. Wash your hands after work with chemicals or with animal or vegetable matter.
7. Put waste solids in the correct bin, never in the sink.
8. Report any accident to the teacher. This includes burns or cuts and chemicals in the mouth, the eyes or on the skin.
9. Keep your bench clean and tidy, with bags and coats put in a place where people will not trip over them. Wipe up small splashes with a damp cloth and report bigger ones to the teacher.

Appendix 13 Safety checklists

Suggested lists are in the following:

- ASE, *Education in Science*, **75**, Nov 1977
- ASE, *Topics in Safety*, ASE, 1988 (2nd Edition) pp 4 & 5
- ASE, *School Science Review*, **277**, June 1995 or *Safety Reprints* b11)

The procedures used for monitoring the implementation of this policy are as follows.
Departmental meetings: safety is a regular item on the agenda for meetings of the science department staff.
Lesson observation: opportunities are made for formal and informal lesson monitoring by senior staff.
Checklists are used for detailed monitoring.

Informal talk: both colleagues and pupils draw attention to failings informally.
Records: the Safety Check List and resource requisitions reveal inadequacies.

Appendix 14 STUDENT GUIDELINES

These are used with the “Expectations of students” as outlined in the faculty handbook.

1. Do not eat or drink in science labs.
2. Hang coats up and put bags away in the spaces provided..
3. Tie long hair back.
4. Do not run.
5. Follow instructions carefully and ask for help if you need it.
6. Respect equipment and materials.
7. Stand up when carrying out any practical activity.
8. Report all accidents to the teacher.
9. Take care to keep yourself and others safe by wearing goggles and being careful.
10. Be responsible for your actions.

***Appendix 15 Where to find safety advice in published texts*.**

Introduction

It is the general policy of this school science faculty to follow the advice provided by the following national bodies: the Department for Education, the Health & Safety Executive, the Association for Science Education and the CLEAPSS School Science Service.

Risk Assessments

Required by regulations, these are explained in the main policy.

The Regulations require employers to provide Risk Assessments before employees meet hazards. This school requires that science staff must consult the following texts for model assessments:

CLEAPSS Hazards	Hazcards
CLEAPSS Laboratory Handbook	Handbook
Hazardous Chemicals: a guide for schools and colleges, for chemicals not in Hazcards	HCM
Safeguards in the School Laboratory Safeguards	Safeguards

Precautions and advice

To help staff find appropriate advice on which to base Risk Assessments, the following table is provided. The details of the books it refers to are in Appendix 3.

Telephone or write to CLEAPSS (at Brunel University, Uxbridge UB8 3PH Tel: +44895 251496) for further advice.

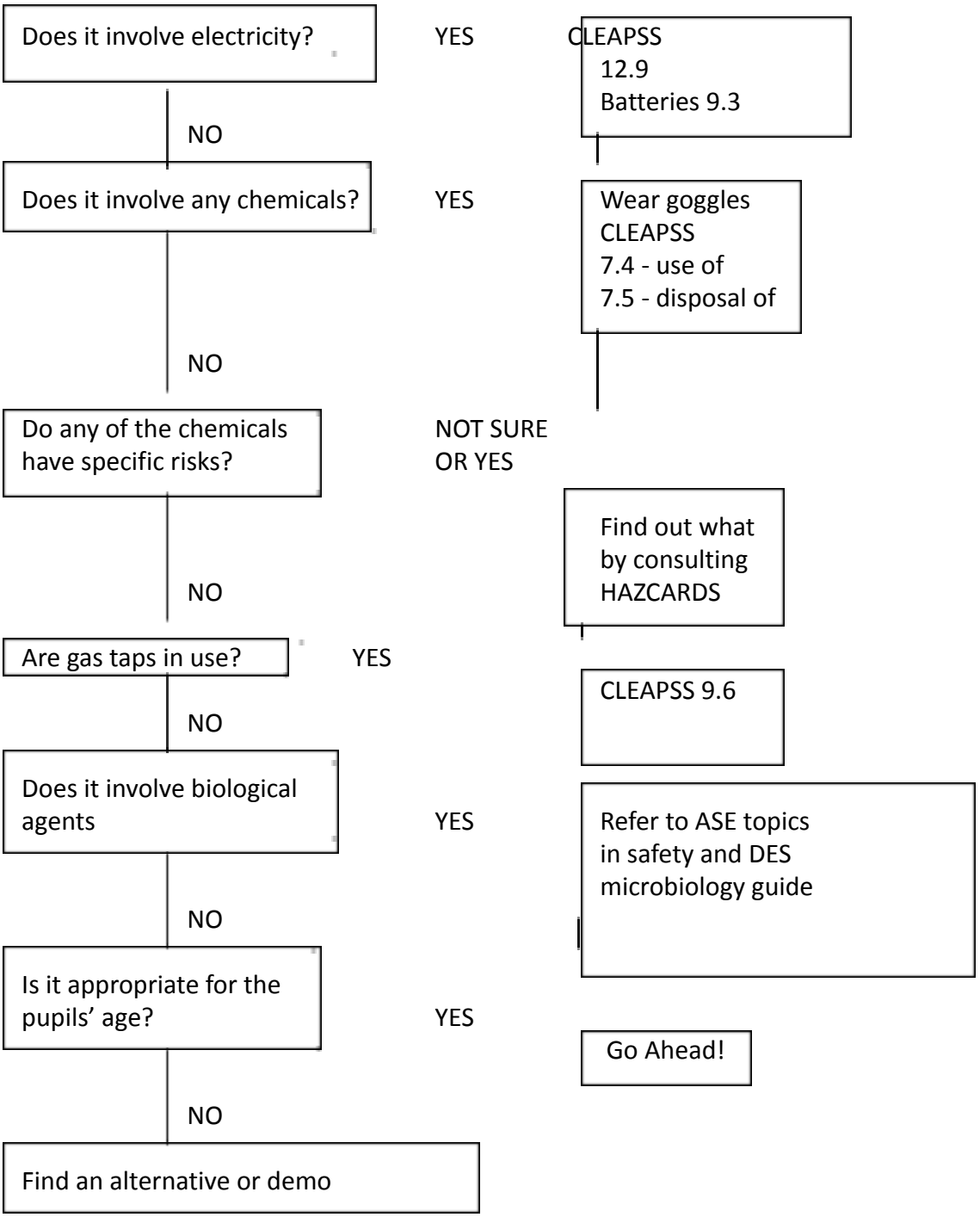
Topic	Handbook	TIS	Safeguards	Other Texts
Air rifles, pistols	12.4.6	-	102	-
Animals, wild	14.2	-	13	DES AM 3/90
Animals, keeping	14.1	-	13	DES AM 3/90
Aquaria, electrical safety	14.3	-	-	Small Mammals
Asbestos	11.6	-	6.3, 15.3	-
Autoclaves	15.12	Ch 5	92	DES AM 7/76
Batteries	9.3	-	11.8	-
Biotechnology	14.9, 14.10	Ch 5b	9.4, 13.3, 16.7	-
Blood and cell sampling	14.4	Ch 4	4.2, 14.2	DES: AIDS some questions & answers
Carcinogens, possible	7.8	Ch 9	15.3	Hazcards, HCM
Cells. Voltaic	9.3	-	11.8	-
Centrifuges	-	-	10.1	-
Chemicals, disposal	7.5	Ch 13	16	Hazcards, HCM
Chemicals, handling	7.4	Ch7 & 8	4, 6, 15, 16	Hazcards, HCM
Chemicals, labelling and storage	7.3, 7.44	Ch10,11 & 12	17	-
Chemicals recommended	-	Ch 8	-	Hazcards, HCM
Cylinders etc LPG (liquid petrol gas)	-	-	6.2	CLEAPSS Guide L164b
Cylinders of oxygen, hydrogen etc	13.3	Ch 10	7.6, 9.1	-
Disinfection	15.12	Ch4 & 5	16.7, 16.10	-

Disposal, biological	14.6, 15.2	Ch5&13	16	Microbiol: HMI
Disposal, chemical	7.5	Ch 13	16	Hazcards, HCM
Dissection	14.7	-	-	Educ in Sci (108) June 1984
Electricity, high voltage ac	12.9.6	Ch 3	11	CLEAPSS Guide L84
Electricity, high voltage dc	12.9	Ch 3	11	-
Electricity, mains-powered equipment	6	Ch 3	11	-
Experiments involving pupils	11.8, 14.4, 14.5	-	11.7, 14	-
Eye protection	3.2	Ch 2	4.2, 7.1, 10.2, 10.6	CLEAPSS Guide R135
Eyewash facilities	3.2.2	Ch 2	111	-
Fermenters	14.9	Ch 5b	9.4, 13.3, 16.7	-
Fire precautions & equipment	4	Ch 14	5	Hazcards, HCM
First Aid	5	-	11	-
Flammable liquids	7.3, 7.43	Ch 11	Numerous references	Hazcards, HCM
Fume cupboards	8.3	Ch 15	7.7, 7.8	CLEAPSS Guide L9
Gas supply	9.6	-	6.2	CLEAPSS Guide L174
Heating	11.6, 9.6	-	6	-
Highly flammable liquids	7.3, 7.43	Ch 11	Numerous references	Hazcards, HCM
Hygiene	14.13	Ch 4	-	-

Ionising radiations	12.10	Ch 13	Numerous references	-
Laboratories	8	-	Numerous references	Building for Science (ASE 1989)
Lasers	3.2.3 12.12	Ch 5.2	12.4	-
Lifting beams and hoists	12.1	-	-	-
Mercury	12.13	Ch 8	15.4, 16.1, 16.2	CLEAPSS Guide L144, Hazcard
Microbiology	15.2	Ch 5	Numerous references	Microbiology: HMI Guide
Pesticides	15.4	Ch 6	-	-
Pipetting	13.8.2	-	7.4	-
Plants	15.5	-	13.6	-
Plastics	13.6	Ch 7&8	5.2, 15.3, 15.4	-
Pressure cookers	15.12	Ch 5	9.2	-
Protective clothing	3.3	-	7.2	-
Pupils involved in experiments	11.8, 14.4, 14.5	-	11.7, 14	-
Radioactive substances	12.10	Ch 13	Numerous references	-
Safety screens	10.4	-	7.3, 8.3, 8.4	-
Saliva	14.4	Ch 4	4.2, 14.2	DES: Aids some questions and answers
Spillages	7.7	-	16, F	-
Spillages, micro-biological	15.2, 15.12	5	16.7	-

Steam engines	10.5	-	Numerous references	-
Sterilisation	15.12	Ch 5	-	-
Stroboscopes	12.19	-	12.1	-
Sun, care in viewing	11.9	-	12.5	-
UV radiation	11.9	Ch 2	12.6	-
Vacuum	12.20	-	8.3	-
Ventilation	8.2	-	7.8	-
X-rays	12.10	-	12.7	-

Appendix 16
COSHH Assessment Flow Chart



Gulf English School
مدرسة الخليج الإنجليزية

Gulf English School Science Department Risk Assessments For And Roles & Responsibilities Of Laboratory Technicians

CONTENTS

GULF ENGLISH SCHOOL SCIENCE DEPARTMENT

Risk Assessments For And Roles & Responsibilities Of Laboratory Technicians

Sometimes employers require written risk assessments for activities carried out by laboratory technicians. **Using guidance in the CLEAPSS *Laboratory Handbook*, *Hazcards* and similar model (general) risk assessments, a science department needs to identify the hazardous activities which are likely to take place in and around the prep room and then decide appropriate control measures to reduce any risks**.

As part of our safety management procedure, this document was discussed and agreed by teaching staff and technicians in November 2018. Technicians and, where relevant, other staff are expected to follow the procedures given.

1 Handling chemicals

Technicians regularly handle chemicals in the course of their work. This includes taking them in and out of storage, transporting them to and from teaching laboratories and prep rooms, preparing solutions, dealing with chemical spills, disposing of waste or surplus chemicals, etc. In this school/college we follow guidance on chemicals given in the CLEAPSS *Hazcards*, *Recipe Cards* and *Laboratory Handbook*. Unless they are completely familiar with the chemical or activity, staff are expected to check for the hazards and the safe procedures to adopt in the relevant publication before starting work. This includes not only routine activities but also dealing with emergencies such as chemical spills.

2 Microbiology and living organisms

Technicians regularly care for living organisms, handle once-living material and prepare and dispose of microbiological cultures, etc. In this school/college we follow guidance on microbiology and on living organisms given in the CLEAPSS *Laboratory Handbook*. Unless they are completely familiar with the procedures, staff are expected to check for the hazards and the safe procedures to adopt in the *Handbook* before starting work.

3 Using equipment

Technicians regularly use, repair and maintain a range of equipment. This includes use of low-voltage units, soldering irons, simple hand or power tools, glass working, repair and construction of simple apparatus, routine electrical testing and routine washing of glassware. In this school we follow guidance on the use, repair and maintenance of equipment given in the CLEAPSS *Laboratory Handbook*. Unless they are completely familiar with the procedures, staff are expected to check for the hazards and the safe procedures to adopt in the *Handbook* before starting work.

4 Clearing up and washing up

Technicians are expected to keep preparation rooms, store rooms etc in a clean and tidy condition, with floors free of hazards which could result in trips and slips. They are expected to clear up resources used in teaching laboratories, and to wash up and replace apparatus used there. Resources are to be returned to their agreed storage place and not left cluttering the prep room. Before washing up, staff are expected to check the chemicals which had been used and hence identify any hazards. This information should be provided by the member of teaching staff on the requisition for that equipment. Appropriate precautions should then be taken: often this will involve wearing eye protection and suitable protective gloves.

5 Lifting and carrying

Technicians frequently need to lift and transport awkwardly-shaped or heavy objects. Before doing so, they should assess the risks to themselves and take appropriate precautions. In this science department we have identified the following situations in which lifting and carrying problems are likely to arise and the control measures we adopt.

Hazardous situation	Control measures
Congestion in corridors, etc	Do not move items between laboratories & prep rooms at change of lesson times, when substantial numbers of pupils are moving around.
Cluttered floors	Remove clutter from prep room and laboratory floors, keep doorways clear.
Damaged floors	Report all damage to floors which could be hazardous, in writing, to site manager.
Wet floors	Ensure spills are mopped up quickly until nearly dry.
Moving general equipment between laboratories & prep rooms	Use equipment trolleys where possible. Work in pairs if necessary.
Moving gas cylinders between laboratories & prep rooms	Use cylinder trolleys.
Hazardous situation	**Control measures**
Carrying large bottles of chemicals around department	Transfer to smaller containers wherever possible, otherwise use special bottle carriers.
Lifting objects from high level storage	Store frequently used items at a medium or low level. If rarely used items need to be stored at a high level, use a step ladder to reach them. Do not do this alone.
Lifting heavy and awkwardly-shaped objects	Only to be lifted by two members of staff who should adopt a safe posture.
Non-routine activities, (e.g. moving flammables cupboard as part of a reorganisation	Adopt the normal procedure to assess risks before attempting the activity; (see section 10).

6 Security

Science laboratories, prep rooms and store rooms are danger areas. This means they must be kept locked when not occupied and the more hazardous chemicals kept in the prep room should be kept in locked cupboards. Transporting resources on trolleys makes it much safer to lock and unlock doors.

7 Receipt and transport of chemicals and equipment to science department

Chemicals and equipment ordered by the science department may arrive at the admin block, the site-manager's office or other locations where staff may not have the knowledge or experience to handle the items appropriately. A procedure should be established to inform all non-science department staff, who may take receipt of such materials, of the steps that should be taken to ensure safety and security. This will include complying with instructions on containers indicating which way up the chemicals etc should be carried or stored.

8 Lone working

Technicians sometimes work on their own, especially at the beginning and end of the day and during holidays. They should refrain from any hazardous activities at such times, for example, diluting concentrated acids, extracting chlorophyll with ethanol, testing high-voltage equipment, etc.

9 Miscellaneous hazards

Rushing work leads to accidents, therefore teaching staff in this school are required to hand in requisition sheets for the following week, as far as is reasonably practicable, by lunch time on Thursday. Generally, sheets handed in after this deadline will not be dealt with (see note 11). In response to this technicians will inform staff by Friday lunchtime if there is likely to be a problem with the provision of the required equipment.

10 When problems arise

When technicians are asked to handle unfamiliar chemicals or carry out unfamiliar procedures, we expect them to check the relevant publications. Where suitable information cannot be found, or in any cases of doubt, the teacher and technician are to consult the CLEAPSS School Science Service. Where CLEAPSS advice cannot be followed, or where any safety problems are identified, the technician is expected to report the matter to the Head of Department.

11 Requisitions

It is accepted by both teaching staff and technicians that it is often difficult to predict the pace at which a particular class will proceed through a unit of work, therefore there is always a possibility that equipment that has been requisitioned will not be required exactly when predicted. The relationship between teaching and support staff should be such that, if such an occasion occurs, both parties can remain flexible so that the delivery of lessons is not affected to the detriment of the students concerned.

11.1 All requisitions will be completed **online** using the ***Lab Logger*** platform and will be checked by the Head of Science.

12 Maintenance of laboratory conditions

Please refer to the following flow chart in order to clarify the procedure for maintaining clear and safe laboratories in the department.