



Safety and Health Handbook for Student and Staff

State Key Laboratory of Marine Pollution

City University of Hong Kong

September 2020

DECLARATION

I acknowledge receipt of a copy of the 'Safety and Health Handbook' and am fully aware of my personal responsibility both to familiarize myself with the procedures and guidelines contained within, and to make every attempt to help ensure a safe and healthy place in which we can all work.

Signature: _____

Date: _____

Name: _____

Supervisor: _____

Please return this slip to the Scientific Officer, Dr. Jiajun WU, immediately.

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1. GENERAL SAFETY GUIDELINES IN LABORATORIES

- 1) Every user must bear the responsibility for safety in laboratories. He/she should obey all the safety rules and exercise a sense of judgment.
- 2) Splash-proof goggles, gloves and lab coats must always be used when doing laboratory work.
- 3) Sandals, open toed shoes, shorts or skirts are not allowed in the laboratory areas. Long hair should be tied back when working in the laboratory. Avoid wearing loose and over-sized clothing. Unnecessary personal belongings should not be brought to the laboratory to avoid contamination.
- 4) Smoking, eating, and drinking are strictly prohibited in the laboratory areas.
- 5) Always keep the entrance door of P5840 and P5820 closed.
- 6) Always keep the fire exit clear of obstacles. Keep at least 1.2 m space of the corridor for free passage and at least 50 cm distance from the sprinkler heads of emergency water supply system.
- 7) Never work alone. Laboratory users should be accompanied by at least one other person who will be able to provide emergency assistance or to call for help in case of accident.
- 8) Experiments should not be left unattended.
- 9) Everyone should be familiar with the locations of the following emergency equipment in the laboratories and know how they are operated.
 - Safety showers
 - Eye wash stations
 - Fire blankets
 - First-aid kits
 - Fire extinguishers
 - Chemical spillage kits
 - Safety supplies box
 - Emergency Ventilation System
 - Personal Alarm System
- 10) If someone is splashed with chemicals or injured, help the person flush the affected area by using the nearby emergency shower or eyewash, or get a first-aider to provide first-aid treatment.

- 11) Report all accidents, spillages, breakages, and injuries immediately to laboratory management staff, immediate supervisor, Safety Officer and Director when they occur.
- 12) New laboratory users are required to attend departmental safety training, pass the online safety quizzes and submit the Health and Safety Risk Assessment form (<https://www.cityu.edu.hk/fmo/studentlan/download/wsassessment.pdf>) before conducting laboratory work.
- 13) Anyone who needs to stay at laboratories after 11pm are required to fill in “Application and Notification to Stay Overnight on Campus” and get prior approval from the Principal Investigator (PI) and Head of Department, then submit to FMO.
- 14) Undergraduate students are not allowed to work in a laboratory without supervision of qualified personnel (such as academic staff, research staff and graduate student).

2. GOOD PRACTICES IN THE LABORATORIES

- 1) The laboratory should be kept neat, clean and free of materials that are not pertinent to the work. Use of laboratory space for experiment/temporary storage should be applied and approved by Laboratory Management Team in advance.
- 2) Clearly label all of your chemicals, samples, containers (e.g., squeeze bottles, wash bottles and Nalgene bottles), and other items with the identity of the substance, its hazards, research group, expiry date, opening date, etc.
- 3) All reagents and chemicals must be returned to the appropriate storage place after use.
- 4) Do not take away or bring any apparatus, materials or chemicals, whether used or unused, large or small, from or to the laboratory without permission.
- 5) Dispose waste properly. Never dispose of organic solvents, filter paper and solid debris in sinks.
- 6) Clean and empty the space once you have completed your experiment.
- 7) Do not touch door handles, door exit button, public telephone and printer with gloved hands.
- 8) Wash your hands thoroughly before leaving the laboratory.

For more information, please visit

<https://www.cityu.edu.hk/fmo/studentlan/download/labsafetygl.pdf>

3. CHEMICAL PURCHASE

- 1) Chemicals such as acid, solvent and other hazardous chemicals need to be purchased through Chemical Control System (CCS) by the Chemical Purchasing Delegates of each PI.
- 2) Purchasing details (Purchase Requisition (PR), Purchase Order (PO) and invoice) of the control chemicals under Control of Chemicals Ordinance (cap. 145), Chemical Weapons (Convention) Ordinance (cap 578) and Hazardous Chemicals Control Ordinance (cap 595) should be provided.
- 3) Toxic chemicals and control chemicals must be kept in a locked freezer or cabinet. The usage will be recorded in a log book.
- 4) Purchase only what is needed. Only minimum and necessary amount of chemicals should be kept in laboratories.
- 5) All chemicals must be recorded in the SKLMP laboratory iPad. Check the Laboratory iPad before purchasing.

4. CHEMICAL STORAGE AND USE

- 1) Chemicals, which are defined as Dangerous Goods under Dangerous Goods Ordinance (Cap 295), cannot be stored in excess of the exempt quantities as stipulated in the law. No DG Cat.1 allowed.
- 2) Incompatible chemicals must be segregated (e.g. cabinets, double containment, trays etc.) and stored in locations where they cannot react. Details please refer to: Segregation of Incompatible Chemicals at FMO's webpage.
- 3) Only minimum and necessary amount of chemicals should be kept in laboratories.
- 4) The volume of solvents for operational use should not be over 5 litres per substance per laboratory at any time. Unless prior written approval was given by the Safety Officer, users should not keep more than one week's supply of flammable chemicals in the laboratories.
- 5) Never leave chemicals on the floor.
- 6) Use appropriate secondary containers to protect against breakage and spillage.
- 7) Keep chemicals away from heat sources such as ovens.

- 8) Replace the chemical containers if chips and cracks are found.
- 9) Flammable and corrosive chemicals shall be stored separately in chemical cabinets that are designed with fire-rating and spill-containing trays.
- 10) Domestic refrigerators shall not be used for storage of flammable chemicals; only “explosion-proof” or “spark-proof” refrigerators or freezers are allowed.
- 11) Secondary containment is required for chemical solutions. Ensure the material of the secondary containment is compatible with the chemical.
- 12) Liquid chemical bottles should not be stored above eye level. Large and heavy liquid chemical bottles should be placed on lower shelves if stored on racks.
- 13) Warning labels should be duly displayed in the areas and on containers with highly reactive chemicals, radioactive materials, flammable solvents, poisonous or carcinogenic substances.
- 14) Carry out work inside a fume cupboard when handling or using chemicals that are volatile, toxic or highly reactive, following appropriate fume cupboard requirements.

5. CHEMICAL WASTE DISPOSAL

- 1) 20 L pails with appropriate chemical waste label was provided to collect ORGANIC waste only in SKLMP; please contact Safety Officer for other types of chemical waste.
- 2) Waste producers are responsible for the first line waste collection from their laboratory activities.
- 3) Waste producers must check the label and discard into designated container to avoid any mixing of incompatible waste, dispose of waste safely in accordance to established laboratory procedures, complete chemical waste log sheet accurately and transport waste to the waste storage area.

For more information, please visit

<https://www.cityu.edu.hk/fmo/studentlan/download/chemicalwastedisposal.pdf>

6. GUIDELINES FOR ANIMAL EXPERIMENT

- 1) Research experiments involving living vertebrate animals should follow the “Guidelines on Ethical Review of Research Experiments Involving Animal Subjects” from Research Committee of the University, <http://www.cityu.edu.hk/ro>, the Guidelines are listed in Appendix I.
- 2) Research staff and students are required to submit an “Application for ethical review of research experiments involving animal subjects” to Research Committee of the University, the application is listed in Appendix II.
- 3) Apply a license for doing any experiment involving living vertebrate animals, by downloading the form from the website of the Department of Health (as listed in Appendix III):
http://www.dh.gov.hk/english/useful/useful_forms/useful_forms_ani.html

7. GUIDELINES FOR BIOLOGICAL SAFETY IN THE LABORATORY

- 1) Biological safety cabinets should be used whenever infectious materials are handled.
- 2) Use plastic disposable transfer loops.
- 3) Use screw-capped tubes and bottles.
- 4) Use Autoclaves to decontaminate infectious materials.
- 5) Use plastic disposable Pasteur pipettes, instead of glass pipettes.
- 6) Never leave infectious materials, including waste and those no longer required for the experiment, unattended.
- 7) All biological wastes must be decontaminated before disposal.

For more information please visit

<https://www.cityu.edu.hk/fmo/studentlan/download/BiologicalSafety.pdf>

8. CLINICAL WASTE DISPOSAL PROCEDURES

- 1) Waste producers are responsible for segregating clinical waste from other waste, packaging, and labeling clinical waste properly according to the definition of clinical waste.
- 2) Waste producer should provide safe and secure temporary storage area before the clinical waste collector comes to collect clinical waste.

Table 1: Packaging Requirements for Different Groups of Clinical Waste.

Groups of Clinical Waste	Type(s) of Container	Colour	Sealing
Group 1 – Used or contaminated sharps	Sharps box	YELLOW or combination of WHITE and YELLOW	Proprietary closure
Group 2– Laboratory waste	Heavy duty plastic bag	RED	Plastic tie
Group 3 – Human and animal tissues	plastic bag	YELLOW	Plastic tie

Please visit <https://www.cityu.edu.hk/fmo/studentlan/download/clinicalwastedisposal.pdf> for more information

9. USE OF FACILITIES AND EQUIPMENT IN SKLMP

- 1) Make sure equipment and facilities in SKLMP are in good and clean condition.
- 2) Only SKLMP members are eligible to book and use the facilities and equipment in SKLMP.
- 3) Booking is required for using dissection room, tissue culture room, walk-in incubator and large equipment. Remember to sign the log book after use.
- 4) Cold room and freezers will do a regular clean every year. Unclaimed or unlabelled items will be disposed without further notice.
- 5) At least one person must stay outside of the - 20°C cold room when you enter the - 20°C cold room.
- 6) Graduate students must clear all their samples/laboratory stuff before they leave.
- 7) Report any irregularity to the Scientific Officer or Safety Officer.

10. FIELDWORK SAFETY

- 1) Anyone carrying out field work is responsible for not endangering their own safety, that of their colleagues or members of the public.
- 2) No field work and diving activity should be initiated in bad weather conditions. Obtain a detailed weather forecast immediately before departure (Hong Kong Observatory Tel. 1878 200). Do not attempt any work if the weather forecast is unsatisfactory or if the weather deteriorates quickly.

- 3) Always carry a portable first aid kit and know how to use it.
- 4) Diving activities should be allowed for research only. For more information, please refer to the SKLMP Diving Safety Manual.

11. ACTION FOR VIOLATION OF THE REGULATIONS

Violation of the above rules would result in warning from the laboratory management team and restricted use of the facilities and equipment in the case of repeated violations.

Action will be taken if users are found to violate any of the regulations:

- 1st time – verbal warning
- 2nd time – written warning + report to the supervisor
- 3rd time – Disciplinary action from SKLMP (e.g. restricted use of the facilities and equipment; forbidden to enter the lab)

12. EMERGENCY CONTACT

Security Counter	3442-8888 (24-hour)
Young Chung-yee Health Centre	3442-6066 (office hours)
Dr. Leo Lai CHAN	97351833
Dr. Jiajun WU	51731239