



“We-Safety” is a newsletter aimed at providing PolyU staff and students with information about how the University has been working to keep our community safe.

May **We** work together to achieve **Safety** on campus.

## Refrigeration of Flammable Chemicals



*Photo source: Westlab.com*

Refrigerators and freezers used for chemical storage must have signs indicating their purpose. Domestic refrigerators or freezers may be suitable for storage of non-flammable chemicals or aqueous liquids. But, how about flammable chemicals?

Flammable liquids should never be stored in domestic refrigerators or freezers.

### Why not Domestic Refrigerators?

Domestic refrigerators or freezers are not suitable to store flammable liquids.

Laboratory explosions have resulted when ordinary domestic refrigerators are used for storage of volatile flammable liquids, and their vapors have reached one of the many ignition sources within such refrigerators.

Flammable chemicals requiring refrigeration must be stored in a refrigerator or freezer designed for the safe storage of flammables and to minimize the risk of fire or explosion.

Even a small quantity of flammable liquids in domestic refrigerator or freezer may cause terrible explosion because there are numerous ignition sources that could ignite the vapors. There were real cases of storage of flammable liquids in domestic refrigerator and accidents were caused.

In June 2000, flammable liquids stored in a refrigerator in University of Vermont and resulted in an explosion. The door was blown off and debris was propelled across the room.

### What Refrigerators should We Choose?

The fire and explosion risk associated with the storage of flammable liquids can be minimized with the use of specially designed refrigerators. Flammable liquids are defined by the NFPA fire code as having a flash point of less than 38 degrees Celsius. Laboratory-safe/spark-free refrigerators or freezers are designed for prevention of ignited flammable vapors inside the storage compartment. They have no electrical sparking devices, relays, switches, or thermostats that could ignite flammable vapors inside the cabinet.

Explosion-proof refrigerators or freezers are designed to be operated in areas where the atmosphere outside of the unit would become explosive, such as a solvent dispensing room. These units are usually not necessary in a typical laboratory setting.



**Explosion at University of Vermont  
in June 2000**

### Unwanted Refrigerators or Freezers Disposal

When laboratory personnel would like to dispose of unwanted refrigerators or freezers, it should be reminded that they can be disposed of only after all biological, radiological and chemical hazards are properly removed. HSO will arrange an on-site check to confirm that they are clean and free from hazards. Then a contractor by FO will pick them up for recycling or landfill.

### Enquiries regarding Storing flammable liquids in Refrigerators or Freezers

Should safety personnel have any queries relating to the storage of flammable liquids or relevant equipment, please feel free to contact the Health and Safety Coordinator responsible for your unit/department.

#### **List of Health and Safety Coordinator of Health & Safety Office (HSO)**

<https://www.polyu.edu.hk/hso/system/coordinator.php?list=hsocoordinator>

Source:

- ❖ Refrigeration/Freezing of Flammable Liquids, Office of Environmental Health & Safety, Wayne State University  
<https://research.wayne.edu/oehs/lab-safety/refrigeration-freezing-flammable-liquids>
- ❖ Storing Flammable Liquids in Refrigerators and Freezers, Office of Environment, Health & Safety, University of California  
<https://ehs.berkeley.edu/sites/default/files/publications/storing-flammable-liquids-refrigerators-freezers-factsheet-31labfridge.pdf>



## We – People

Established in 2006, the Centralised Animal Facilities (CAF) aims to provide humane handling of research animals and high-quality animal husbandry services. CAF provides veterinary and daily care to laboratory animals throughout the whole year to ensure all research animals are husbanded in a stable and hygiene environment.

Dr Alice Au, Senior Scientific Officer of CAF, joined the University in 2015 and has been appointed as Departmental Health & Safety Officer (DHSO) at the same time. She has not only been working closely with CAF staff members, she has also been in close partnership with HSO to ensure safe operation of laboratories of the unit.

In her role of overseeing the safety issues of CAF, Dr Au has been serving as an effective conduit of communication with CAF members and users. “There is good communication among staff members of CAF. We have regular meetings for experience sharing and discussions regarding laboratory operation and other related issues. ‘Whatsapp group’ is also being used for communication on ad hoc issues, if any. We also have solid support from the Management,” she said.



Dr Au shared the difficulties that CAF faced at the fifth wave of covid-19 in Hong Kong. CAF provides supports to users in various aspects such as quality laboratory animals and highest welfare and ethical standards for animal care is ensured. CAF colleagues have to provide daily care to laboratory animals throughout the whole year, including weekends and public holidays. At the fifth wave of covid-19, most of the colleagues were tested positive or being quarantined. As DHSO of the unit, Dr Au rearranged the working roster immediately to balance the works of animal caring and colleagues’ health condition. “Although it was a hard time, with our team’s good communication and support to each other, we maintained the facilities’ normal operation,” Dr Au thanked.



In addition to the effective internal communication, CAF also work closely with other offices and users from various departments.

Users from various departments may use the facilities and laboratories of CAF for their research projects. Dr Au thanked the support from the technical staff members from CAF to have good communication with users on training and laboratory operation, “with the University’s safety policy, users are well trained before entering and using University’s laboratories. When users apply to use our facilities, our colleagues would also provide relevant training and briefing for users. It is the mechanism well established by CAF to ensure users can have a full picture on the health and safety issues they have to pay attention when using the laboratory”.

Dr Au also mentioned that CAF had very good communication with Campus Development Office, Campus Facilities and Sustainability Office (CFSO) and HSO at the stage of current office and laboratories set-up. Meetings have been held to discuss the health and safety issues and the facilities/laboratories design. “With the good conversation and preparation, the works provided CAF safe facilities and laboratories to support the University’s research community to achieve excellence in research, teaching and learning,” she appreciated. As the set-up of new laboratories is also under preparation, Dr Au would closely communicate with these three parties in the coming stages. Dr Au also thanked HSO’s support to all safety concerns or queries at CAF’s operation. She appreciated that HSO always provides prompt response and useful advice on her health and safety concerns.

## We – Learn

### Health and Safety Guideline for Small Unmanned Aircrafts

In view of the Small Unmanned Aircraft (SUA) Order (Cap.448G) that came into operation on 1 June 2022, the Health and Safety Guideline for Small Unmanned Aircrafts (the Guideline) of HSO is revised to align with the requirements in the SUA Order. SUA operations are regulated under a risk-based approach and subject to the corresponding regulatory requirements include registration and labelling of the SUAs, remote pilot registration, training and assessment.

No SUA operation is allowed on campus unless safety consent from HSO is obtained and permitted by CFSO. The Guideline sets out the application procedure for SUA operations on campus and both the applicant and remote pilots should observe the Safety Rules of SUA Operations.

You may visit HSO website (click [HERE](#)) for Guideline.



### Occupational Safety & Health Open Seminars

The Occupational Safety & Health Council (OSHC) is going to offer a series of online seminars relating to occupational health and infection control in August and September 2022. Please visit OSHC website (Click [HERE](#)) for more details and enrolment.

#### August 2022

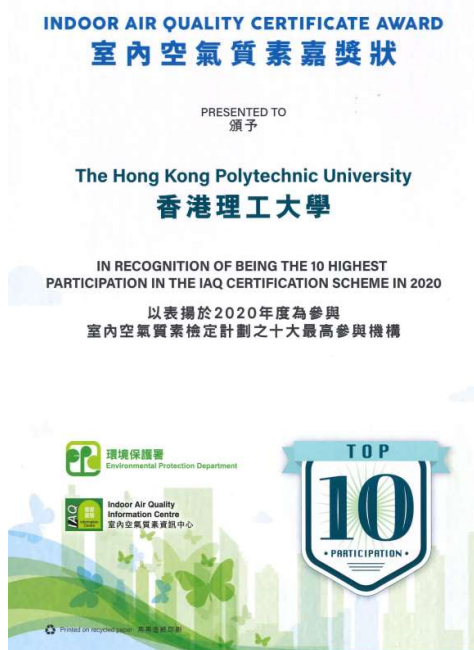
<b>Topics:</b>	<b>Online Open Seminar on Requirements of Noise at Work Regulations and Hearing Protection</b>
Date:	9 August 2022 (Tuesday)
Time:	6:45 - 8:15 pm
Language:	Cantonese

#### September 2022

<b>Topics:</b>	<b>Online Open Seminar on Infection Control in the Workplace</b>
Date:	22 September 2022 (Thursday)
Time:	6:45 - 8:00 pm
Language:	Cantonese

## We – Update

### Indoor Air Quality Certification Scheme



PolyU endeavors to provide a pleasant indoor air environment for all students, staff members and visitors. With the continued support of all students and staff, CFSO’s maintenance of quality facilities in particular, HSO’s professional advice and air monitoring, PolyU received her special award as one of 10 organizations with the highest rates of participation and obtained “10 Years Commitment Award” in the Indoor Air Quality (IAQ) Certification Scheme 2020 (prize presented in May 2022).

The Certification Scheme, launched by the Government’s Environmental Protection Department (EPD), recognizes the efforts of organizations in enhancing indoor living and working environments, and provides incentives for owners of premises/buildings or property management companies to pursue the best level of IAQ.

## We – Listen

We *value* your opinions and We always *Listen*.

### Outreaching Meeting

Last round of outreaching meeting was held on 6 May 2022 with safety personnel of Faculty of Business, Faculty of Humanities, School of Design and School of Hotel and Tourism Management. HSO took this opportunity to exchange health and safety ideas and views with safety personnel and updates on health and safety issues on campus had been made.

HSO will continue to meet safety personnel of different offices / units to listen to safety personnel’s views and concerns on health and safety issues. The coming round will kick-off this September.

**Contact Us**  
HEALTH & SAFETY OFFICE

- Room Z402, 4/F, Block Z  
The Hong Kong Polytechnic University
- 3400 8396
- safety.hso@polyu.edu.hk
- polyuhso