HSEO Organization Chart

Samuel Yu
Director

Christine Chiu
Associate Director

Analytical Service
Susanne Leung
Manager

Chemical and laboratory Safety
Sam Tung
Head

Campus and Engineering Safety
Benny Ng
Head

Radiation and Biological Safety
Pak Ip
Head

DG/Waste Mgt & CLS Services
Priscilla Lee
Head

Admin Team

HSEO Lab

Field Operation Support /Safety Training
Manager

HSE Field Team

Center of Laboratory Supplies

HSE Field Team

Health, Safety and Environment Field Team – Team Assignment Areas (Dec 2025)

										
Andy Fong Assistant HSE Manager	WP Yip Assistant HSE Manager	Cell Wong Assistant HSE Manager	Woo Chun Fai Assistant HSE Manager	Shirley Ng HSE Officer	Connie Lo HSE Officer	Suki Leung HSE Officer	Jimmy Li HSE Officer	Tony Ip HSE Officer	Mandy Ng HSE Officer	Max Wong HSE Officer
CMO (BS, BM, LS) CIVL DBM ACCT, ECON, FINA, ISOM, MARK, MGMT DSTO	DSCI PHYS GSCI PRVST, VPABO, VPIAO, VPRDO, VPDO OP (SAU)	DENG AAF CBE MAE NFF FSC HKUSTGZ, FYTRI FYTGS FRISM, SHCIRI, SRI EPACK	LIFS LAF MTPC, OKT, OIDR SUST	OCES OCRF HKBGML ACESS NAMI HKCND HKCCR CMO(FS, Landscape, Housing) Staff/ Student Dental Clinics; Staff Medical Clinic	CLS ENVR/IENV MCPF IAS, HSEO, EMIA DHSS HUMA SOSC LANG/CEI	CSE EI MATH ITSO, LIB, GECO, RDC, RO, VNI	ECE CKSRI E2I, IEDA, ISD BDI, CCSS, DAO, EC	CDO CMO-Security CSO GCF IAO, HKGAI, OMA *FO, HRO, IAO, ITSO, PURO*	LIFS LAF BRI BioCRF C4AS IEMS, IPP, PPOL LEGAL	AMC CHEM MDMF SSTI AIS ARO URAO

*MFC offices

Services provided by HSEO

- Consultation on the planning of facilities and operations to address safety and environmental concerns
- Liaises with government agencies to facilitate regulatory compliance on safety and environmental issues
- Conduct risk assessment and review research proposals
- Monitoring personal exposure to hazardous materials to ensure compliance with regulatory limits, and evaluates the performance of hazards control equipment

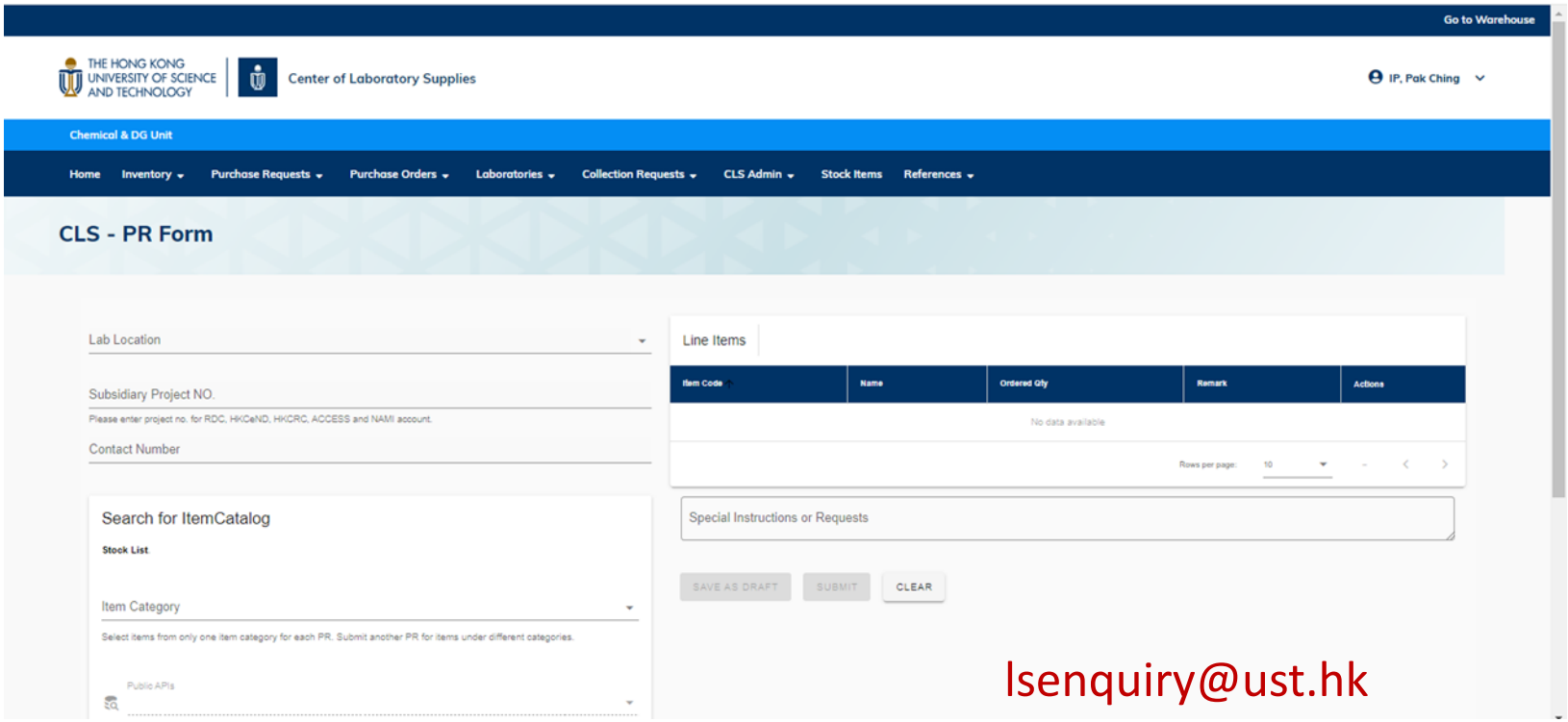
Services provided by HSEO

- Provides general safety training on variety of safety subjects to complement supervisors' hand-on safety training and to address curriculum requirements
- Disseminates information on safety and environmental protection matters
- Assists with proper selection of personal protective equipment
- Coordinates emergency response and organizes drills

Services provided by HSEO

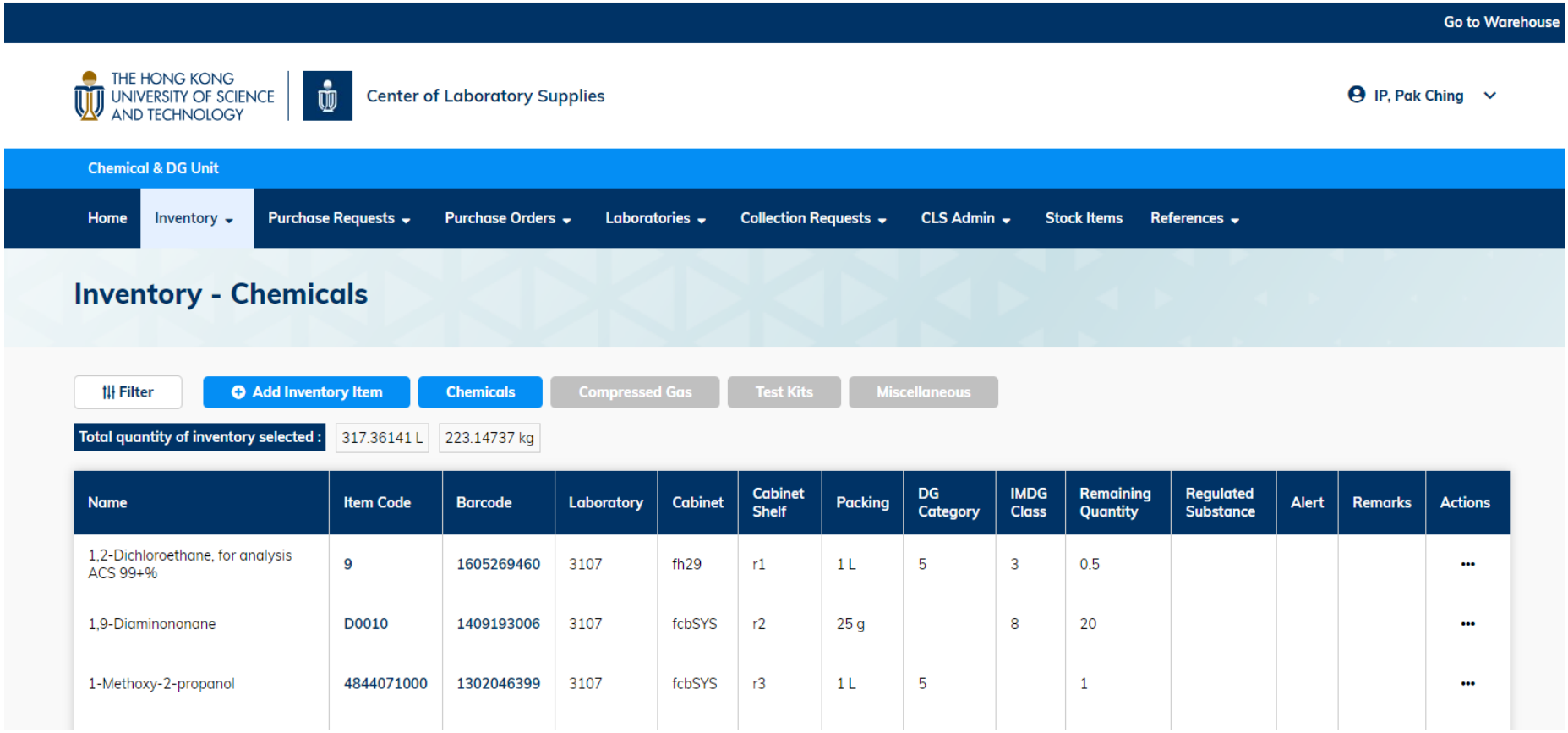
- Coordinates the implementation of a medical surveillance program to address occupational health issues
- Monitors air emission, liquid effluent and waste management to ensure proper practice and compliance
- Stops operations with involve repetitive violations or imminently dangerous situations
- Conducts accident and incident investigations to identify causes and assist with preventing recurrence

CLS Procurement / Inventory System



lsenquiry@ust.hk

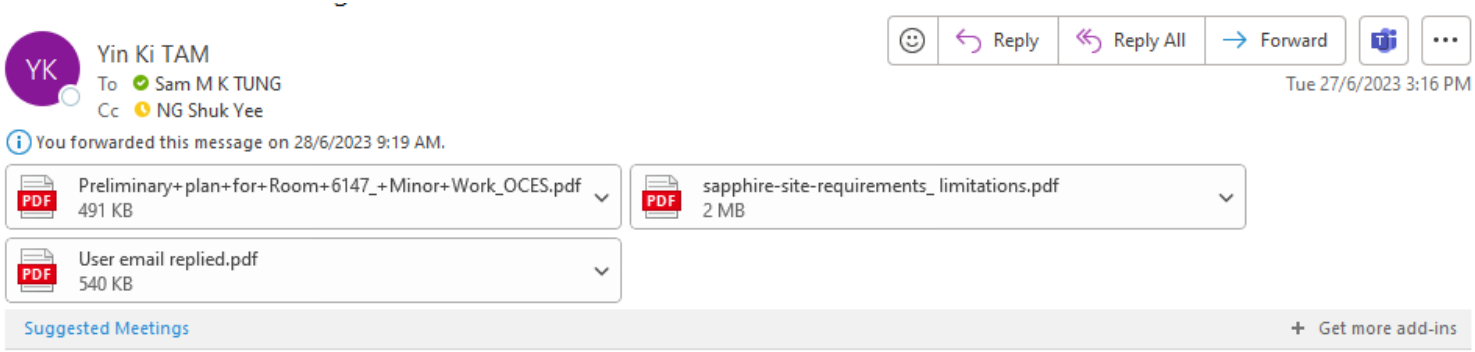
Laboratory Inventory



Name	Item Code	Barcode	Laboratory	Cabinet	Cabinet Shelf	Packing	DG Category	IMDG Class	Remaining Quantity	Regulated Substance	Alert	Remarks	Actions
1,2-Dichloroethane, for analysis ACS 99+%	9	1605269460	3107	fh29	r1	1 L	5	3	0.5				•••
1,9-Diaminononane	D0010	1409193006	3107	fcbSYS	r2	25 g		8	20				•••
1-Methoxy-2-propanol	4844071000	1302046399	3107	fcbSYS	r3	1 L	5		1				•••

Laboratory Design

- Provides consultation on the planning of facilities and operations to address safety and environmental concerns



Yin Ki TAM
To Sam M K TUNG
Cc NG Shuk Yee

Reply | Reply All | Forward

Tue 27/6/2023 3:16 PM

You forwarded this message on 28/6/2023 9:19 AM.

Preliminary+plan+for+Room+6147_+Minor+Work_OCES.pdf
491 KB

sapphire-site-requirements_ limitations.pdf
2 MB

User email replied.pdf
540 KB

Suggested Meetings

+ Get more add-ins

Dear Sam,

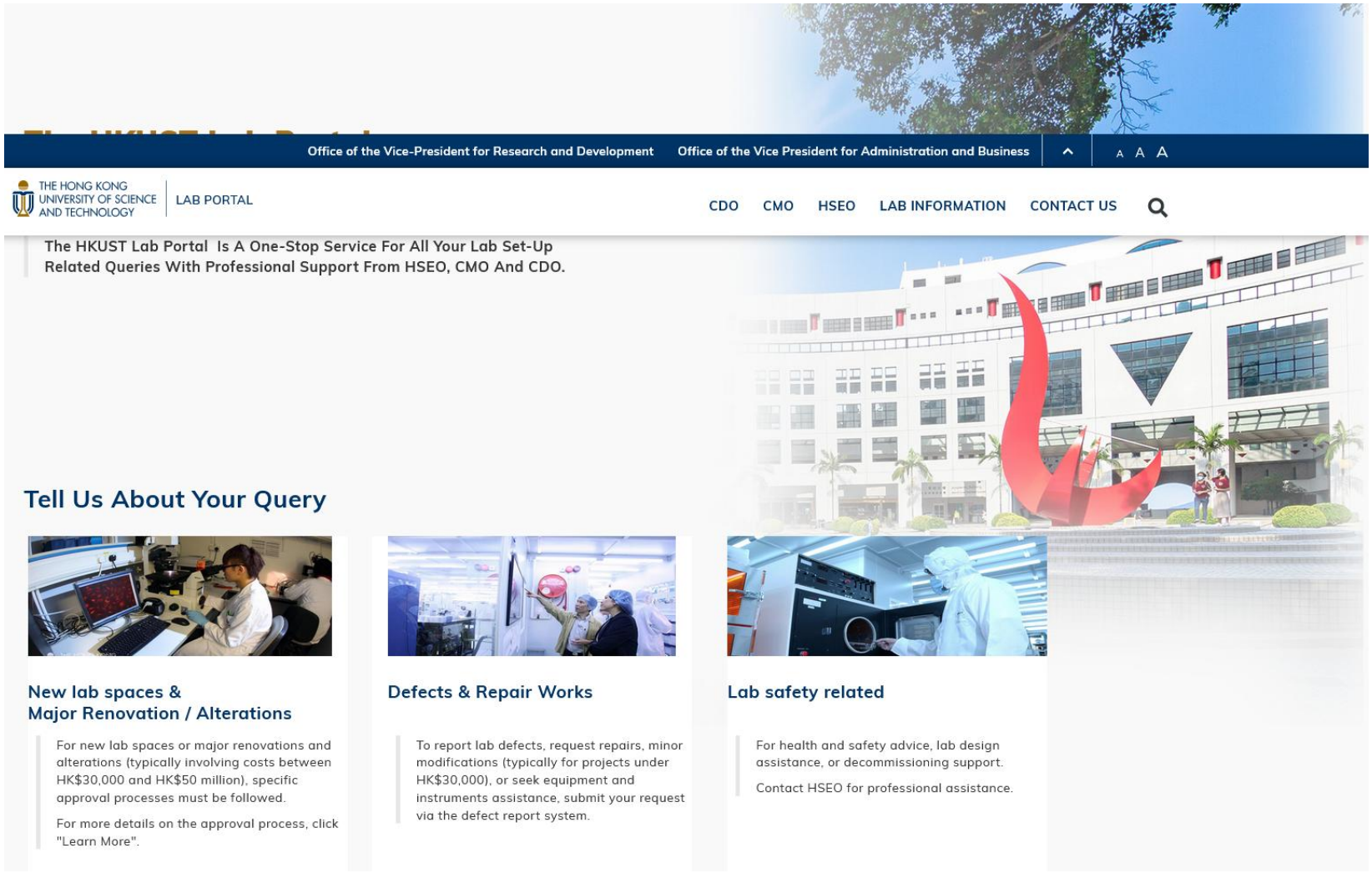
One of our faculties has been awarded in the Collaborative Research Fund 2022/23 for a collision-cell equipped multi-collector inductively coupled plasma mass spectrometer (CC-MC-ICP-MS). A space of ~ 60 sq. m. in Room 6147 was allocated by DSCI for building her facilities. Two clean rooms will be built in that area: ISO Class 8 for the instrument operation and ISO Class 7 for sample preparations. Since the users request two plastic fume hoods in the Class 7 room and are going to work with nitric acids and heavy metals, etc., we hope to have HSEO's safety opinions on the designing the two rooms.

CMO-LS would like to have a meeting with CDO and HSEO on Thursday (29 June) at 10:30 am in CYT-UG002. Will you be able to join? Please advise. Thank you.

Regards,

Yin Ki TAM
OCES

Laboratory Design



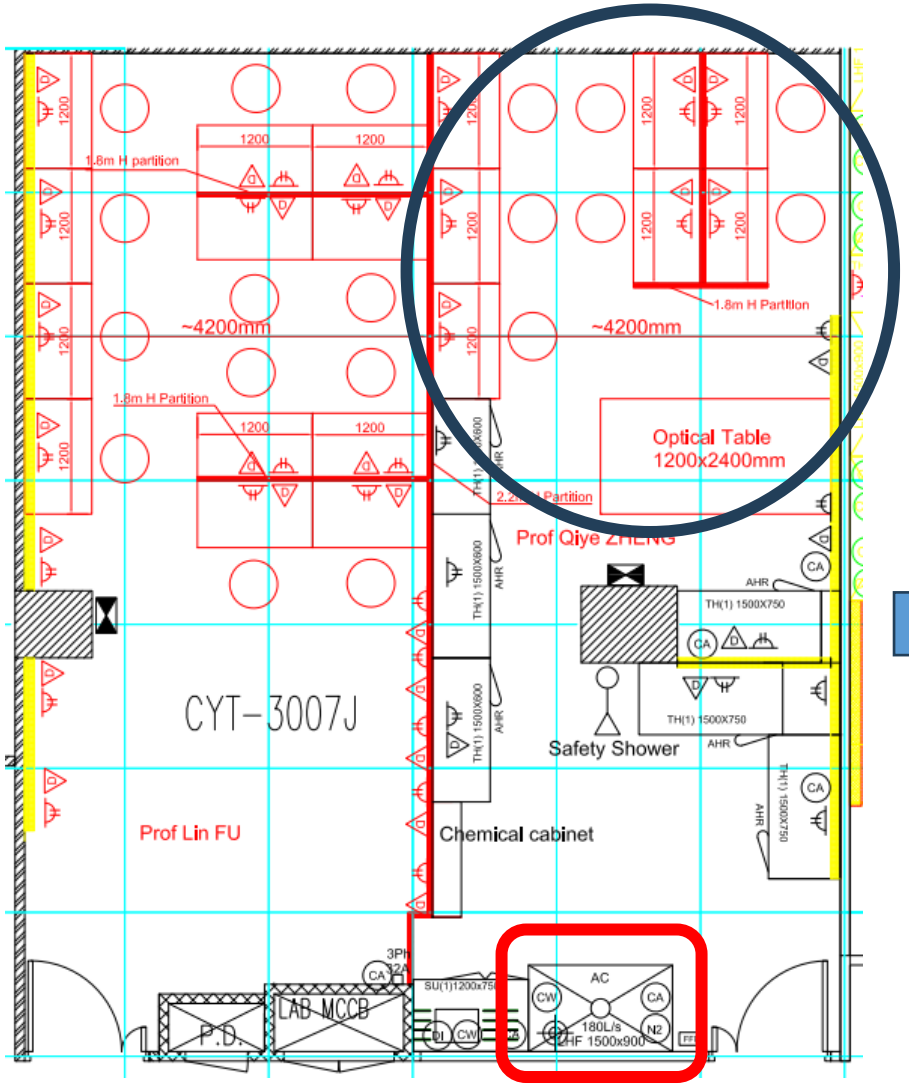
Laboratory Design

		6147
FACULTY	- Wet Labs - Dry Labs - Planning Requirements	Wet Lab
	Target Areas (m^2)	~ 60 sq. m.
	Any special equipment or instruments?	CC-MC-ICP-MS x 1, metal-free fume hood x 2
	Faculty Nos.	
PERFORMANCE	Preferred Lab/ Lab Support Module (%)	Combination of chemistry and biology
	Biosafety Requirements	BSL2
	Any Cleanroom Required?	Y, two clean rooms required
	Cleanliness Level	ISO Class 8 for the CC-MC-ICP-MS ISO Class 7 for the two metal-free fume hoods
	Electromagnetic (EM) Interference Considerations?	5 x 10^{-6}T alternating filed amplitude for any frequency
	Any Cold Room/ Tissue Culture Room?	N
	Photolithography	N
STRUCTURE	Floor Loading/ Strong Floor Requirements (kPa)	10 requested in original RDS. Recommend 3 - 5 kPa (the CC-MC-ICP-MS has two main units: main bench weighs 650 kg and the sub bench weighs 450 kg)
	Slab thickness requirements	N
	High Bay: Max Beam/ Hoist Capacity Required	N
	Vibration Requirements	IEST VC-B or better
BUILDER'S WORKS	Headroom Requirements (m)	2.8
	Ceiling System Requirements	Clean room ceiling tiles
	Partition	Yes, gowning area between two clean rooms
	Door	W1500mm
	Wall Finish Requirements	Clean room wall finish
	Floor Finish Requirements	Clean room floor finish
	Any Raised Floor Requirements	Floor slope <= 5 mm/m (<= 1000 arc seconds) Stability: <=0.05 mm/m (<= 10 arc seconds) for any time period

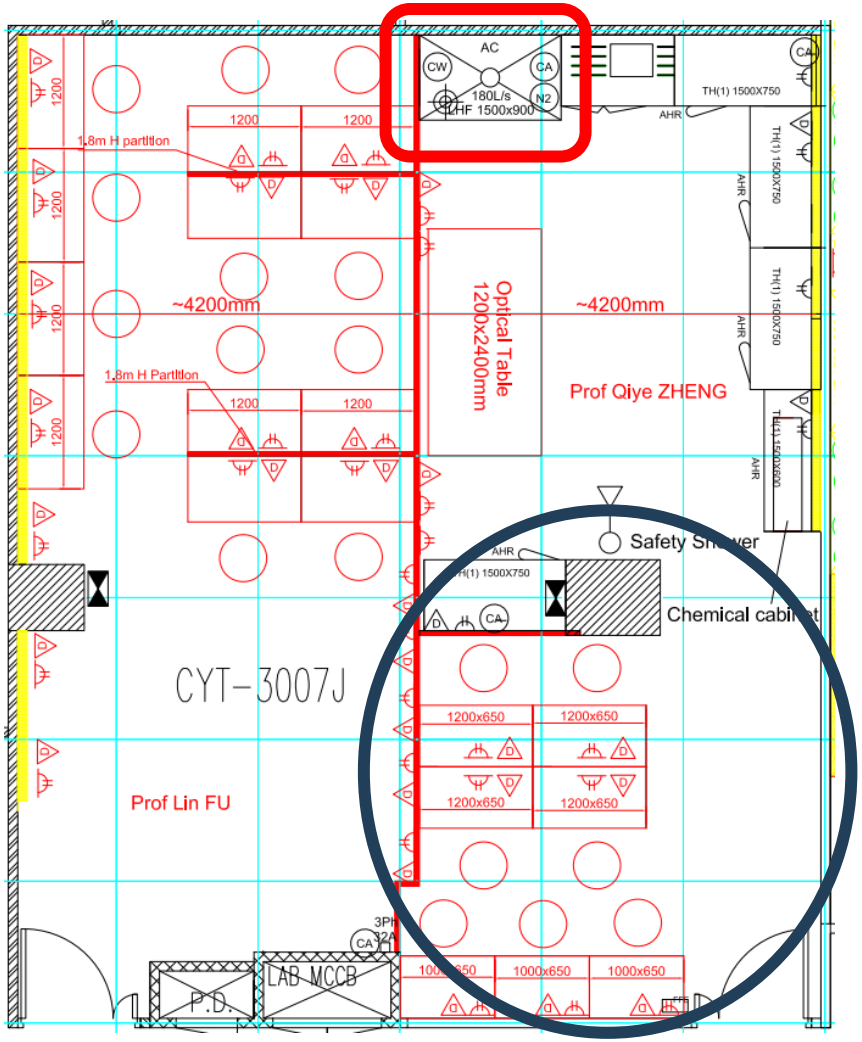
Laboratory Design

WASTE & SAFETY	**General** Waste Disposal Requirements	Alkali, halogenated/non-halogenated solvent, Inorganic/organic acid, metal, organic gel
	PPE Cabinet (close to entry)	Y in ISO Class 7 room
	Personal Protective Equipment Required?	safety goggle, cover-up gown, nitrile gloves
	Chemical Storage-Flammables	Y
	Chemical Storage-Acid	Y
	Chemical Waste Storage Cupboard Required?	N
	Lab Waste Treatment Requirements (Eg Water Neutralisation Tank etc.)	N
	Any Dangerous Goods?	Y
	Any Dangerous/ Flammable Gases? (eg. Methane/ Propane/ Ethane etc.)	Y
	Local O2 or CO2 alarms required?	N
	Emergency Shower Required?	N
	Emergency Ventilation (EV) Required?	Y
	Equipment Cooling Water Required?	N
	LPG Outlet Required	N
	BBQ Local Exhaust Point Required?	Y
	Biosafety Cabinet (BSC) Required?	N
GENERAL LAB EQUIP	Fume Cupboard Required?	Y, 2 plastic (metal-free) with HEPA filter
	Fume Cupboard Ratio	NA
	Fume Cupboard Exhaust Requirements	Y
CENTRAL FACILITIES	N2 Requirements & Purity	Y, 1 per fume cupboard
	Sink (with DI and CW)	Y in ISO Class 7 room
	DI Water Required?	Y in ISO Class 7 room sink and fume cupboards
	Cold Water (CW) Required?	Y in ISO Class 7 room sink and fume cupboards
	CO2 Required?	N
	Compressed Air (CA) Requirements	Y, 1 per fume cupboard
	Vacuum (V) Requirements	N
DELIVERIE	Cylinder	Y
	Other regular deliveries	cylinder gases (Argon, compressed air, Helium and Hydrogen)

Laboratory Design



Original design



Finalized design

Regulatory Compliance

- Liaises with governmental agencies to facilitate regulatory compliance on safety and environmental issues

Labour Department Inspection

Regulatory Compliance

Occupational Safety and Health Ordinance
Section 9

IMPROVEMENT NOTICE

Name: Hong Kong University of Science and Technology
Address: Clear Water Bay, Kowloon

Improper labeled of a chemical

I **HEREBY GIVE NOTICE** that I am of the opinion that at Room Department of Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, you, as an employer where a workplace is located, have contravened in circumstances that make it likely that the contravention will be continued or repeated the Occupational Safety and Health Ordinance, namely Sections 6(1) and 6(2)(c) of the Occupational Safety and Health Ordinance in that you, so far as reasonably practicable, failed to ensure the safety and health at work of your employee(s), namely that you failed to provide proper labelling on every container holding ethyl acetate as might be necessary to ensure, so far as reasonably practicable, the safety and health at work of your employee(s).

By virtue of the power vested in me under section 9 of the Occupational Safety and Health Ordinance, I **HEREBY REQUIRE** you to remedy the said contravention within two weeks i.e. on or before 10 March 2011.

Signature: (YAU Man-hei)
for Commissioner for Labour

Date: 24 February 2011

Reference No. : (25)[1] in 821/1/14(HKUST)(E)5 Pt.2

Notes:
1. Failure, without reasonable excuse, to comply with an improvement notice is a criminal offence and renders the offender liable to a fine of $200,000 and to imprisonment for 12 months under section 9(5) of the Occupational Safety and Health Ordinance.
2. The service of this notice does not relieve you of any legal liability for failing to comply with any statutory provisions referred to in the notice, or to perform any other statutory or common law duty resting on you.
3. Compliance with this notice would not be taken as an admission of the alleged contravention of the statutory provisions referred to in it.

Labour Department
Occupational Safety and Health (Integrated Services)
5/F, Tsuen Wan Government Offices, 38 Sai Lau Kok Road, Tsuen Wan

Our reference : (25) in 821/1/14(HKUST)(E)5 Pt.2
Tel. number : (852) 2417 6214
Fax number : (852) 2412 2911

Department of .....
Hong Kong University of Science and Technology
Clear Water Bay, Kowloon

24 February 2011

Dear Sir/Madam,

Re.: Improvement Notice

I enclose by way of service an improvement notice dated 24 February 2011 of reference no. (25)[1] in 821/1/14(HKUST)(E)5 Pt.2 issued by me under section 9 of the Occupational Safety and Health Ordinance in respect of the workplace at Room Hong Kong University of Science and Technology, Clear Water Bay, Kowloon.

In the interest of the safety and health of employees at work, I advise you to carefully note the contents of this improvement notice and to take notice that any failure by you, without reasonable excuse, to comply with it is a criminal offence, the conviction of which will render you liable to a fine of $200,000 and to imprisonment for 12 months as provided by section 9(5) of the Occupational Safety and Health Ordinance.

Should you require further information or advice on the matter, please contact Mr. YAU Man-hei at telephone number 2417 6214.

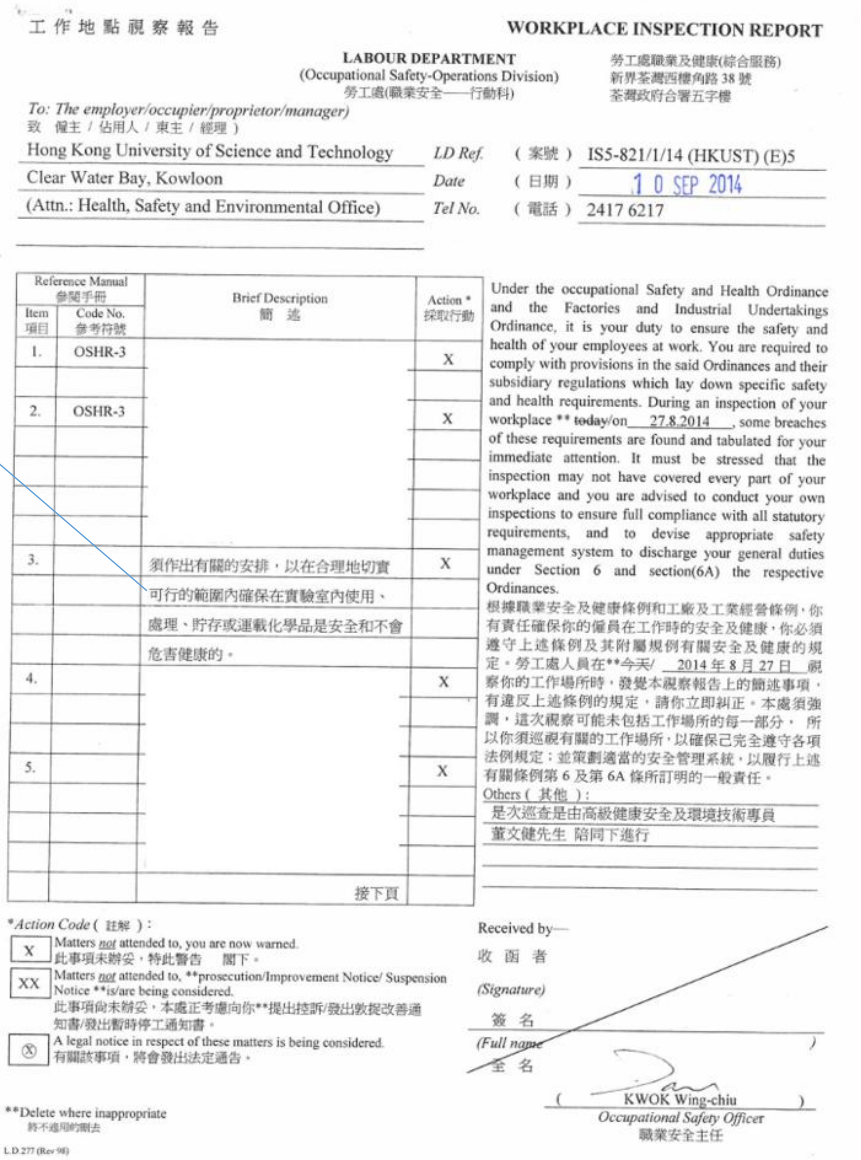
Yours faithfully,

(YAU Man-hei)
for Commissioner for Labour

Regulatory Compliance

須作出有關的安排，以在合理地切實
可行的範圍內確保在實驗室內使用、
處理、貯存或運載化學品是安全和不會
危害健康的。

Arrangements shall be made to ensure, so far as reasonably practicable, that handling, storing or transporting chemicals in laboratories is safe and does not endanger the health.



工作地點視察報告 WORKPLACE INSPECTION REPORT

LABOUR DEPARTMENT
(Occupational Safety-Operations Division)
勞工處(職業安全——行動科)

勞工處職業及健康(綜合服務)
新界荃灣西樓角路 38 號
荃灣政府合署五字樓

To: The employer/occupier/proprietor/manager)
致 僱主 / 佔用人 / 東主 / 經理)

Hong Kong University of Science and Technology
Clear Water Bay, Kowloon
(Attn.: Health, Safety and Environmental Office)

LD Ref. (案號) IS5-821/1/14 (HKUST) (E)5
Date (日期) 10 SEP 2014
Tel No. (電話) 2417 6217

Reference Manual 參閱手冊 Item 項目	Code No. 參考符號	Brief Description 簡述	Action * 採取行動
1.	OSHR-3		X
2.	OSHR-3		X
3.		須作出有關的安排，以在合理地切實	X
		可行的範圍內確保在實驗室內使用、	
		處理、貯存或運載化學品是安全和不會	
		危害健康的。	
4.			X
5.			X
		接下頁	

Under the occupational Safety and Health Ordinance and the Factories and Industrial Undertakings Ordinance, it is your duty to ensure the safety and health of your employees at work. You are required to comply with provisions in the said Ordinances and their subsidiary regulations which lay down specific safety and health requirements. During an inspection of your workplace ** ~~today~~/on 27.8.2014, some breaches of these requirements are found and tabulated for your immediate attention. It must be stressed that the inspection may not have covered every part of your workplace and you are advised to conduct your own inspections to ensure full compliance with all statutory requirements, and to devise appropriate safety management system to discharge your general duties under Section 6 and section(6A) the respective Ordinances.

根據職業安全及健康條例和工廠及工業經營條例，你有責任確保你的僱員在工作時的安全及健康，你必須遵守上述條例及其附屬規例有關安全及健康的規定。勞工處人員在**~~今天~~/ 2014 年 8 月 27 日 視察你的工作場所時，發覺本視察報告上的簡述事項，有違反上述條例的規定，請你立即糾正。本處須強調，這次視察可能未包括工作場所的每一部分， 所以你須巡視有關的工作場所，以確保已完全遵守各項法例規定；並策劃適當的安全管理系統，以履行上述有關條例第 6 及第 6A 條所訂明的一般責任。

Others (其他) :
是次巡查是由高級健康安全及環境技術專員
董文健先生 陪同下進行

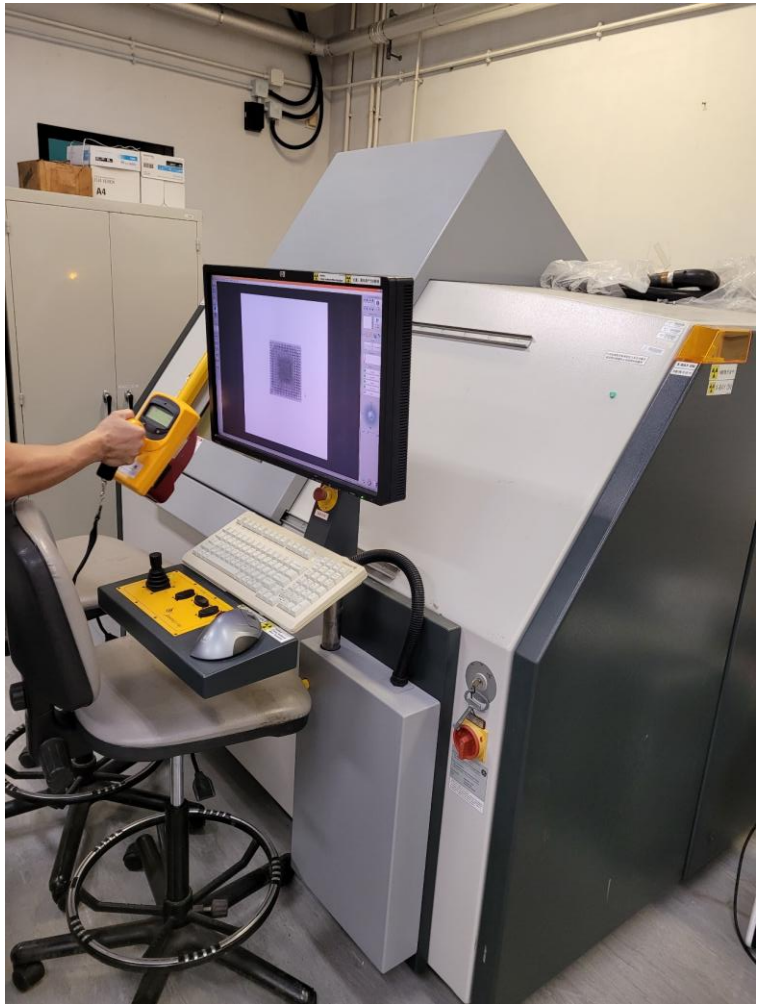
Action Code (註解) :
X Matters *not* attended to, you are now warned. 此事項未辦妥，特此警告 閣下。
XX Matters *not* attended to, **prosecution/Improvement Notice/ Suspension Notice **is/are being considered. 此事項尚未辦妥，本處正考慮向你**提出控訴/發出改善通知書/發出暫時停工通知書。
Ⓧ A legal notice in respect of these matters is being considered. 有關該事項，將會發出法定通告。

Received by—
收函者
(Signature)
簽名
(Full name 全名) KWOK Wing-chiu
Occupational Safety Officer
職業安全主任

**Delete where inappropriate
將不適用的刪去

L.D.277 (Rev 98)

Regulatory Compliance



Leak test of an XRD by an inspector of the Radiation Board for the renewal an irradiating apparatus license

Risk Assessment

Safe Operating Procedure of hydrofluoric acid for wafer etching

NOTE: You must read this entire document and both you and the Principal Investigator must sign it before commencing any work.

Project Number (e.g. Tick@Lab): SP2024-1111

Principal Investigator/Supervisor: Prof. TM Chan

Room and Building where SOP is used: Room 2005

Summary of how the Material/Equipment/Process will be used

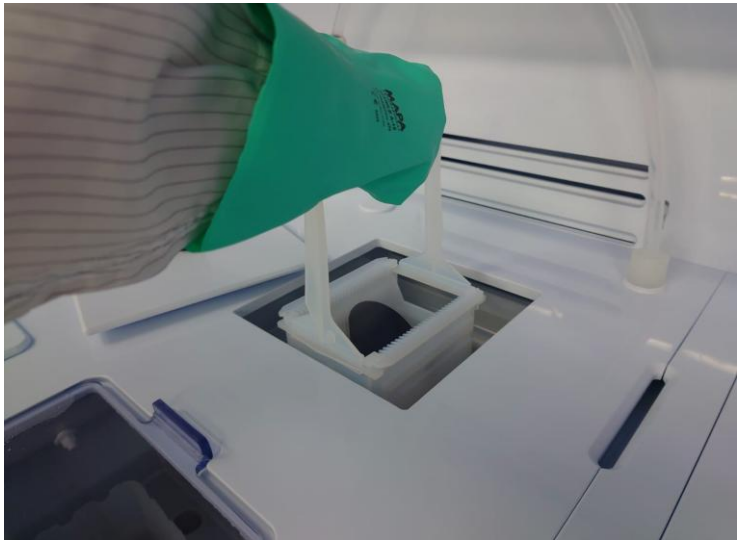
Hydrofluoric acid (HF) is a highly corrosive and toxic inorganic acid used in various applications, including semiconductor manufacturing, glass etching, and metal cleaning. In semiconductor wafer etching, a precise and controlled amount of HF is used to remove oxide layers and create intricate patterns on silicon wafers, which are then used to produce integrated circuits and other electronic devices.

Potential hazards

1. **Corrosivity**: HF is highly corrosive and can cause severe burns and tissue damage upon contact with skin, eyes, or mucous membranes.
2. **Toxicity**: HF is highly toxic, and exposure to its vapor, liquid, or contact with the skin can result in systemic poisoning and potentially fatal consequences.
3. **Reactivity**: HF can react with various materials, including metals and glass, releasing hazardous gases such as hydrogen gas and silicon tetrafluoride.

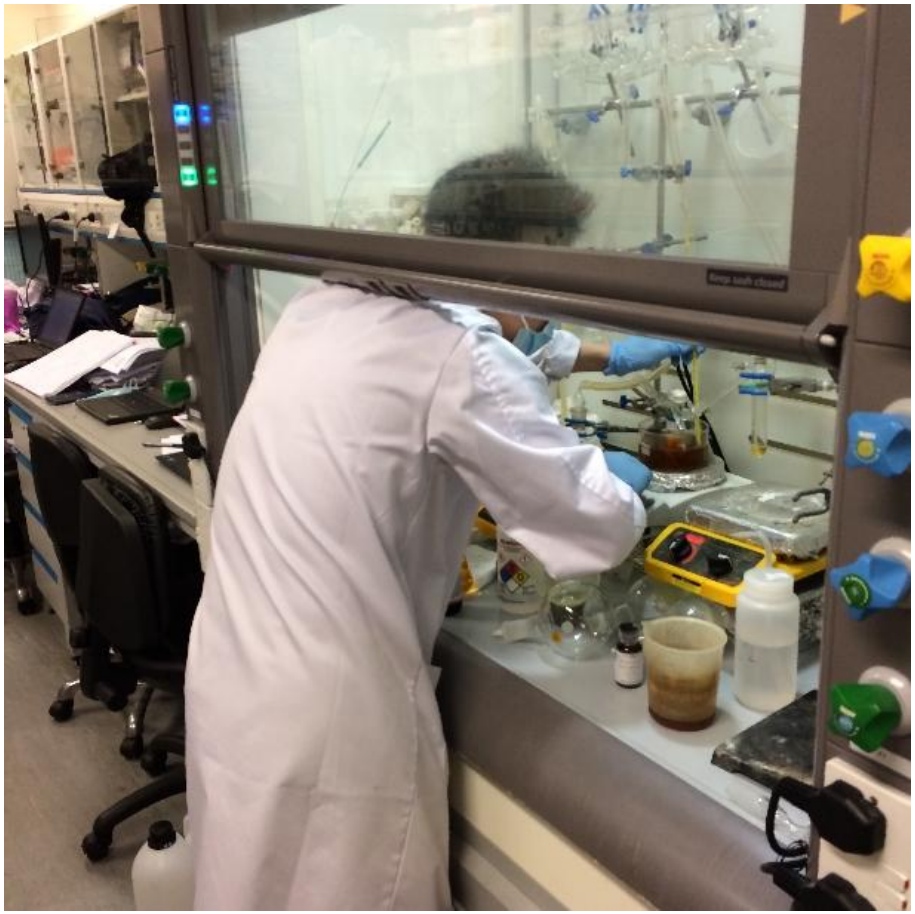
Safety Installations

1. **Fume hood**: Use HF in a well-maintained and properly functioning chemical fume hood to contain and exhaust hazardous vapors.
2. **Ventilation**: Ensure proper general and local exhaust ventilation systems are in place to minimize exposure to HF vapors.
3. **Chemical storage**: Store HF in compatible containers, such as polyethylene or Teflon, in a designated acid storage cabinet.

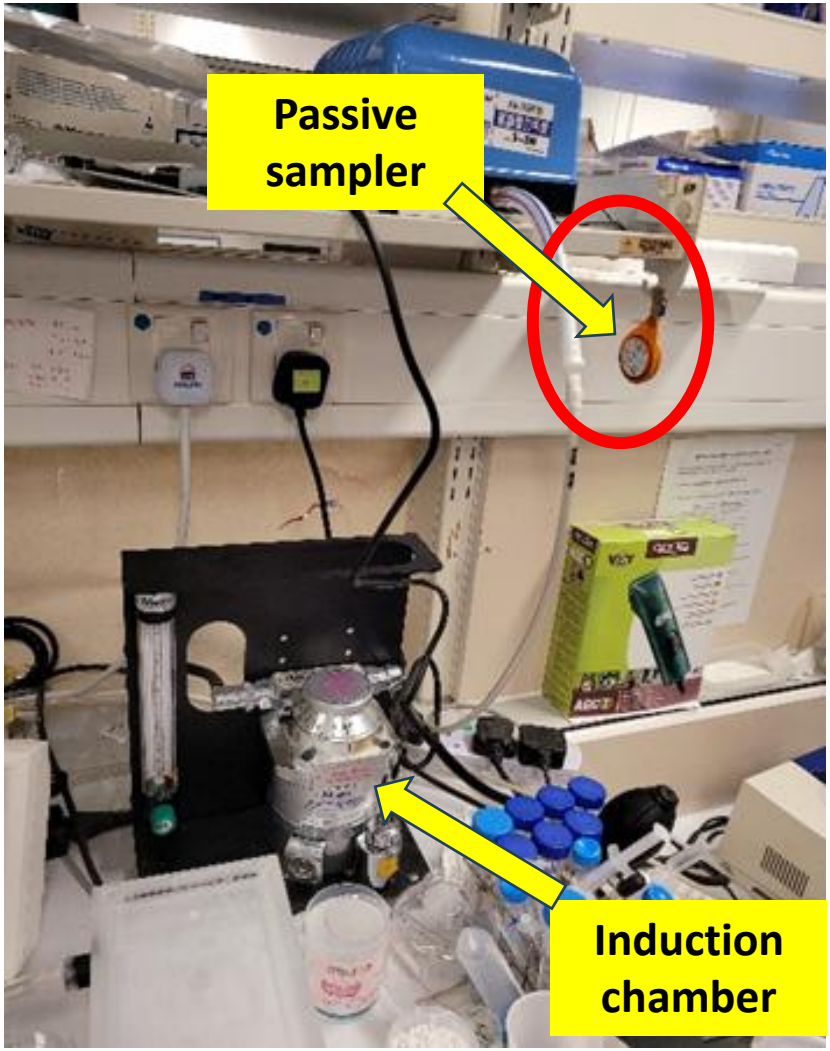


Inspection and Audit

- Conducts inspections and audits to evaluate performance



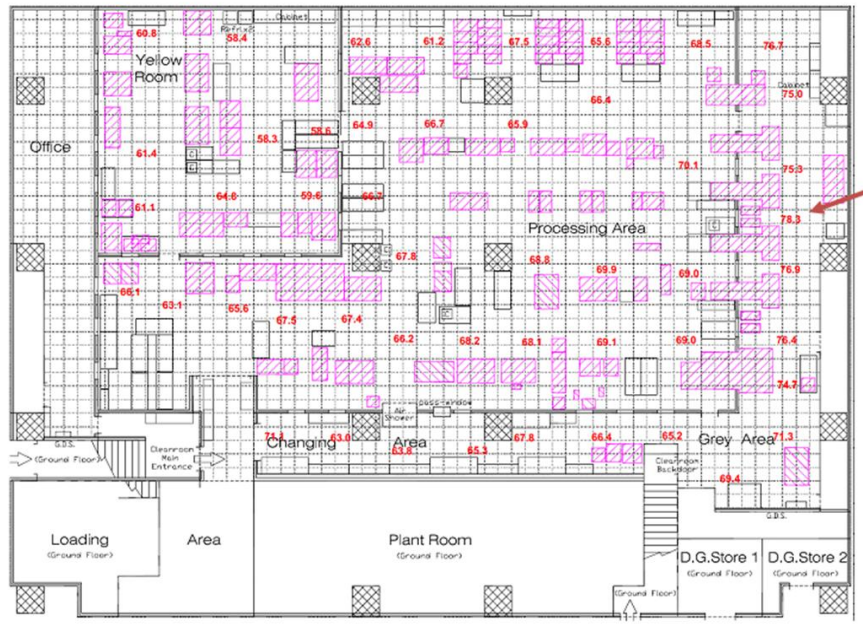
Exposure Assessment / Monitoring



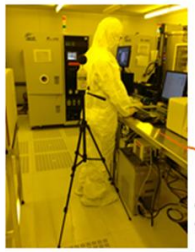
Exposure Assessment / Monitoring

Exposure Assessment / Monitoring

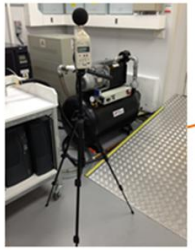
Workplace Noise (dBA)

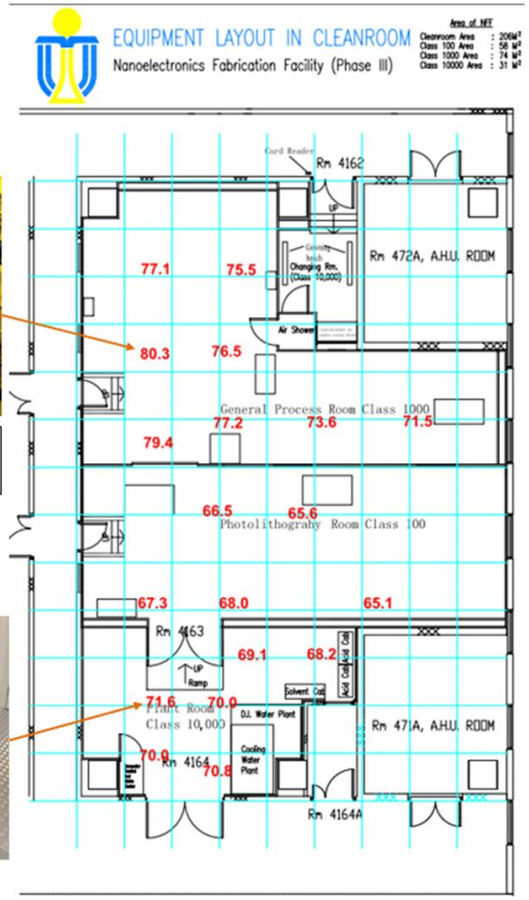


Workplace Noise (dBA)



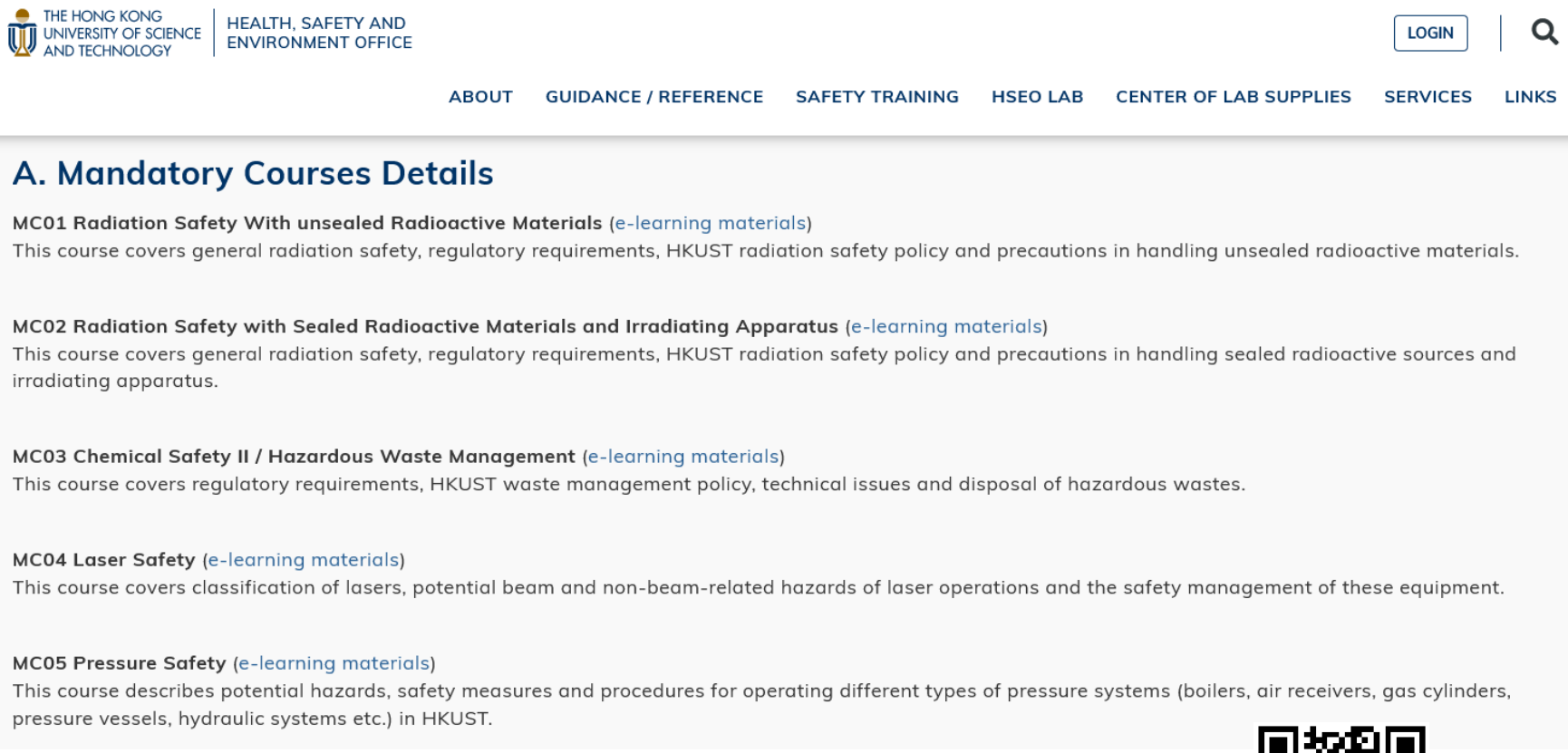
Rapid thermal annealing system





Training

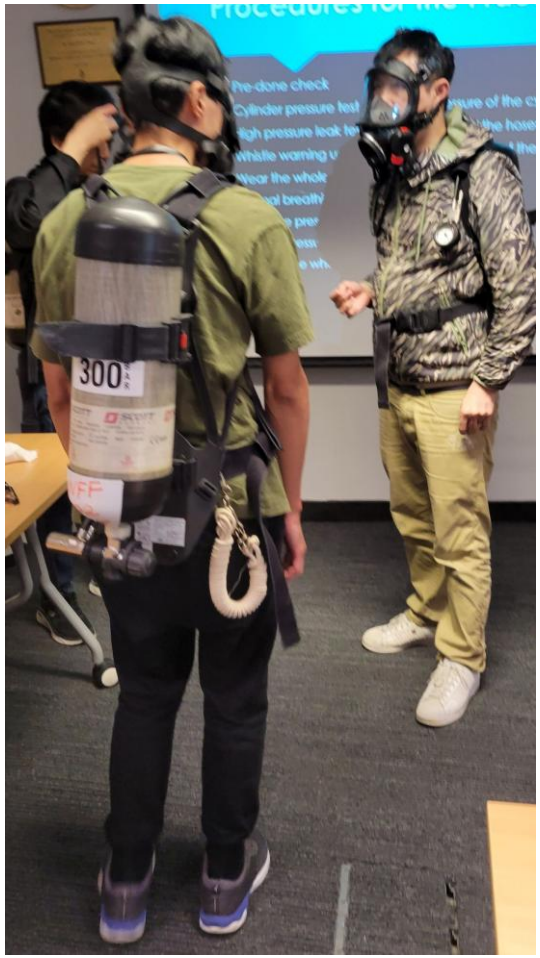
- Provides general safety training on a variety of safety subjects to complement supervisors' hands-on safety training



https://hseo.hkust.edu.hk/mand_disc_courses

Training

- SCBA training for security staff and lab emergency responders



Training

Personal Protective Equipment

- Assists with the proper selection of personal protective equipment

DISPOSAL GLOVES:

Disposable gloves are designed to provide barrier protection and tactile sensitivity to the wearer. Thin mil gloves are not intended for applications involving prolonged, direct exposure to chemicals. The following chemical compatibility information provides a guideline for using thin mil gloves in applications where incidental splash exposure to various chemicals may occur. Gloves should be removed and replaced immediately if incidental splash exposure occurs.

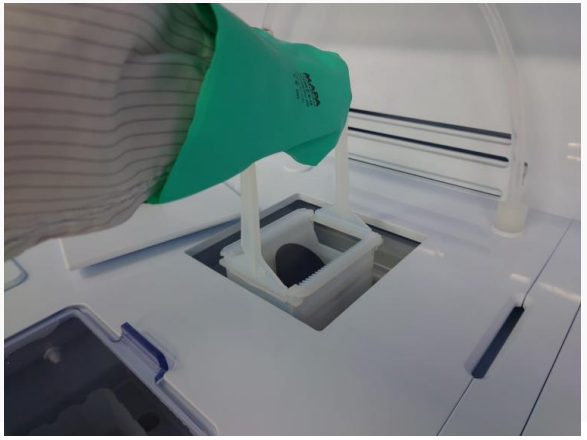
Chemical resistance reference chart of Medicom disposal gloves

CHEMICAL-RESISTANT GLOVES:

Chemical resistance reference table of SilverShield/4H chemical-resistant gloves

Chemical resistance reference table of MAPA A-15 Nitrile chemical-resistant gloves

Chemical resistance reference table of Ansell chemical-resistant gloves



Emergency Preparedness

- Coordinates emergency response and organizes drills

Spill Kart (7/F)

Safety Goggle
Disposable Nitrile Glove

Reusable Nitrile Glove
Reusable Neoprene Glove
Laminated Film Glove
Mercury Spill Kit
Wiper, Sponge & Scissors

Barricade Tape
pH Paper
Sealing Tape (Duct Tape)
Mop

Sorbent Pillow
Mopping Combo Pack
Spill Floor Stand

Chemical Protective Coverall
Tyvek Coverall
Shoe Cover

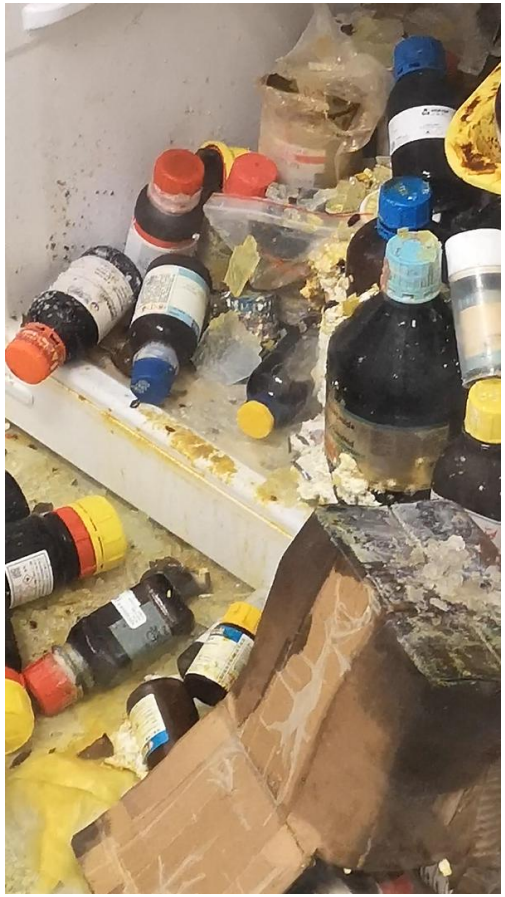
Dust Pan and Brush Set

Heavy Duty Disposal Bag
Rubbish Bin

Acid Neutralizer
Caustic Neutralizer
Solvent Adsorbent
Sorbent Pad

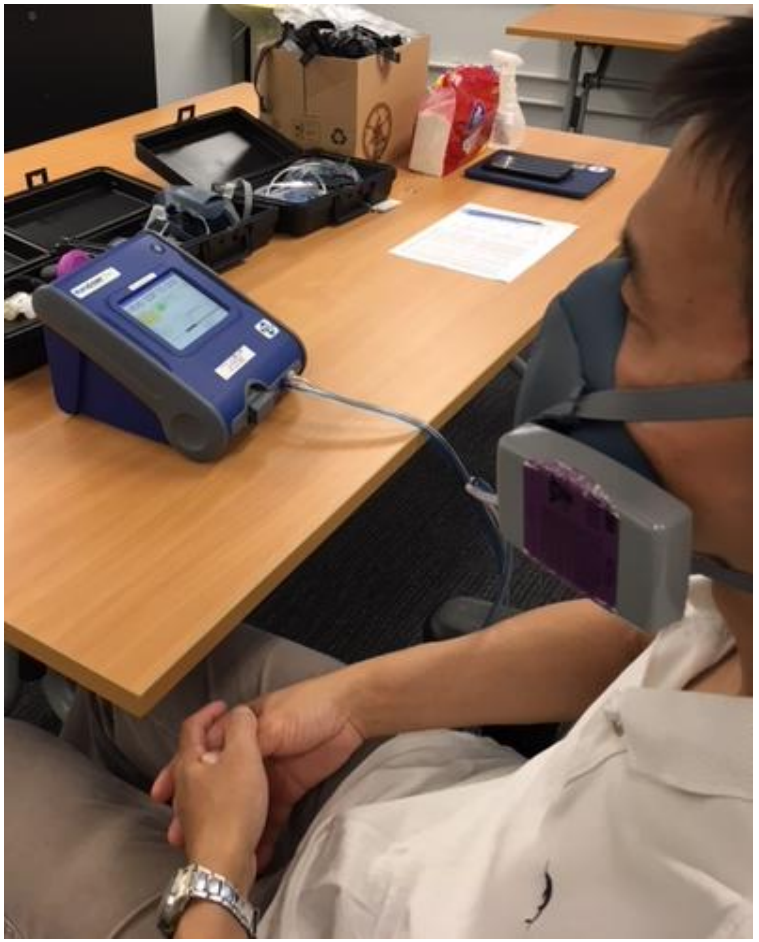
Emergency Preparedness

- Coordinates emergency response and organizes drills



Annual Fire Drill

Occupational Health and Medical Surveillance



eForm for Occupational Health Assessment and Medical Surveillance.

Occupational Health and Medical Surveillance

B: Workplace Health Hazards Information and Control Measures (Click to expand or collapse)

B1. Animal Handler and/or Biohazard Worker (Click to expand or collapse)

Brief description of the operation associated with the hazardous agent(s) below:

☐ Laboratory Animals (includes direct contact with animals, animal tissues, fluids or wastes):

☐ Rat ☐ Mice ☐ Hamsters ☐ Rabbits ☐ Others :

☐ Transgenic animal :

☐ Toxic chemicals injected (Teratogen, Carcinogen) :

☐ Infectious Agents (Notes: Risk Group, RG2 agents only, RG3 agents are restricted in HKUST.) :

☐ Human Specimen :

☐ Microorganism :

☐ Cell lines :

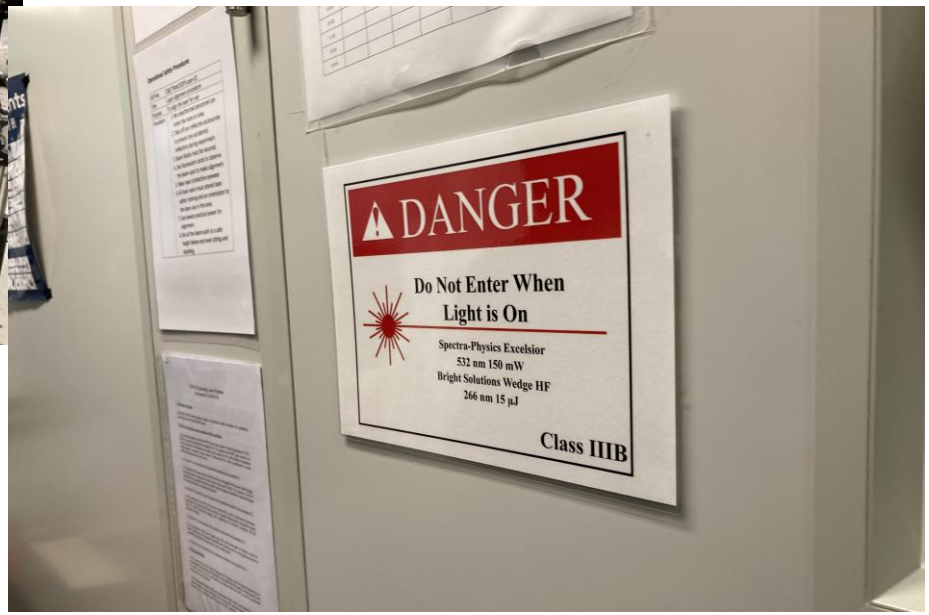
- With recombinant DNA vectors of all kinds
- Work with any bacteria, viruses or fungi
- Culturing of virus infected cells
- Processing of samples of tissues or body fluids (blood, serum, or semen) from humans or other primates,
- Frequent handling of laboratory animals for care or experimentation

Occupational Health and Medical Surveillance

B2. Laser Worker (Click to expand or collapse)

Brief description of the operation associated with the hazardous agent(s) below:

☐ LASER System (open beam) :	☐ Class 3B ☐ Class 4
Laser Hazard Control Plan (LHCP) is required to be attached	



Occupational Health and Medical Surveillance

B3. Radiation Worker (Click to expand or collapse)

Brief description of the operation associated with the hazardous agent(s) below:

☐ Unsealed radioactive materials :

☐ Sealed radioactive materials :

☐ Irradiating apparatus description :

Irradiating Apparatus Licence No. :

Radiation User Authorization (RUA) No. :

Radiation User Registration application is required to be attached

Occupational Health and Medical Surveillance

B4. Self-Contained Breathing Apparatus (SCBA) and/or Respirator User (Click to expand or collapse)

Brief description of the operation associated with the hazardous agent(s) below:

- ☐ Workshop or CMO staff
- ☐ Chemicals/Dust/Mist/Fumes/Particulates :
- ☐ Nanomaterials :
- ☐ Bioaerosols :

Environmental Compliance

主旨: White foam at the stream adjacent to Staff Quarters Tower 1 of HKUST(30 Oct 2021)
(EP3/N08/RE/00026651-21)

To Director of HKUST,

We had already received a complaint from the public about the white foam spotted at the stream adjacent to Staff Quarters Tower 1 of The Hong Kong University of Science and Technology on 30 Oct 2021. I would like to provide some information for you to easy check. We try to identify the source of the pollution. If you wish to make enquiries about this case or provide further information, please call me at 2117 7519 / 9258 2321.

Thank you for your concern on the environment.

Regards,
Ms. ML HO
Senior Environmental Protection InspectorRegional Office (East)
Environmental Protection Department, HKSARG

Hazardous Waste Management

- Monitors waste management and liquid effluent to ensure proper practice and compliance

Environmental Compliance

- Wastewater and sea water sampling

Hazardous Waste Management

Safety Communication

- Disseminates information on safety and environmental protection matters

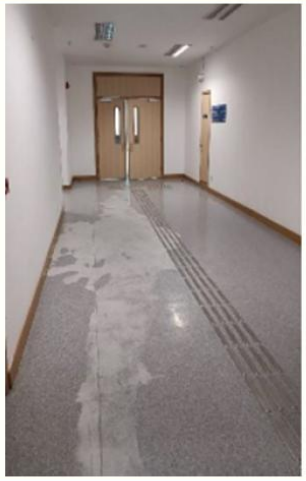
Safety Alerts

JULY 2023

HEALTH, SAFETY, ENVIRONMENT OFFICE

SAFETY ALERT

CHEMICAL SPILL INCIDENT AT PUBLIC AREA



A recent incident has shed light on the importance of ensuring the safe handling and transport of chemicals within research facilities. The event involved three research students who were tasked with transferring a 2L ethanol from the CYT building to the main laboratory building. The student carried the solvent bottle insecurely with one hand, leading to the bottle falling and breaking, causing a spillage that spread across the corridor.

In response to this accident, another student attempted to clean up the broken glass and left the solvent to evaporate while putting up a signage to warn others. It was observed that proper safety procedures were not followed, including the use of a safety bottle carrier, wearing appropriate personal protective equipment (PPE), and immediate reporting to the security unit.

SAFETY ALERT

SOME CRITICAL LESSONS LEARNED AND RECOMMENDATIONS

>>> PROPER HANDLING AND TRANSPORT <<<

Chemicals, especially those that are hazardous, should always be transported with care. The use of a trolley equipped with secondary containment or safety bottle carriers can provide a secure grip and lessen the risk of accidents. For those who work with chemicals, safety bottle carriers specifically designed for transporting chemicals are available through the CLS DG unit.

>>> USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE) <<<

The students involved in this incident did not use the appropriate PPE. Wearing PPE like laboratory coats, gloves and safety glasses can significantly reduce the risk of personal injury from chemical spills or broken glass. It is mandatory that PPE must always be used when handling, transporting, or cleaning up chemicals.

>>> EMERGENCY PROCEDURES <<<

The response to the spill did not follow established emergency procedures for chemical spills. Allowing the solvent to evaporate is not a safe or effective method for managing a chemical spill. Instead, dedicated spill kits should be used, and the area should be properly ventilated to avoid the build-up of harmful vapors. It is recommended that all personnel regularly review emergency procedures and that these procedures are available in the booklet of HKUST Emergency Procedure.

>>> PROMPT REPORTING <<<

The incident was not immediately reported to the security unit, delaying the emergency response. Quick reporting is crucial for ensuring that appropriate measures are taken to minimize harm and damage. To ensure prompt attention, any critical incidents should be reported to the security unit through the 24-hour hotline extension 8999.

IN CONCLUSION

This incident underscores the significance of following safety protocols when handling and transporting chemicals.
It is recommended that the lesson learned from this incident be used to reinforce existing safety training and protocols, and to develop a safety-conscious culture within the research community.

Safety Alerts

SAFETY ALERT

THE ANHYDROUS PICRIC ACID

A recent incident involving a bottle of 25g of anhydrous picric acid discovered in a refrigerator has highlighted the essential need for stringent chemical safety practices within our research laboratories. This incident serves as a stern reminder of the potential risks associated with the mishandling of chemicals, particularly those with high reactivity.

Anhydrous picric acid, also known as 2,4,6-trinitrophenol, is a highly friction and shock-sensitive chemical. When it is dry, it is potentially explosive and can be triggered by even minor impacts or friction.

A 25G OF PICRIC ACID WAS FOUND IN A REFRIGERATOR.

To prevent further incidents, faculty members and research students must be aware of, and adhere to, best chemical handling practices. This includes understanding the hazards associated with each chemical, proper labeling, updating the inventory, routine checks, and correct storage methods. Safety training and strict adherence to safety protocols are non-negotiable aspects of working in a laboratory environment.

SAFETY ALERT

SOME CRITICAL LESSONS LEARNED AND RECOMMENDATIONS

>>> IMPROVE CHEMICAL SAFETY EDUCATION <<<

Chemical safety education needs to be enhanced. All lab personnel must be trained to understand the hazards of the chemicals they work with. This training should include identification, handling, storage, and disposal procedures for each chemical. The list of shock-sensitive and explosive chemicals is available for reference.

>>> REGULAR INVENTORY UPDATES <<<

Keeping track of what chemicals are on hand, where they are stored, and how much is available, is fundamental to laboratory safety. This inventory should be regularly updated and cross-checked to ensure accuracy. In the case of the picric acid incident, the barcode of the picric acid was not found and the bottle was not recorded in the inventory, a lapse that could have led to tragedy.

>>> STRICT LABELING PROTOCOLS <<<

Proper labeling isn't merely a regulatory requirement; it's a critical safety measure. All chemicals, without exception, should be clearly labeled with their correct names, hazard class and their barcodes for tracking. A well-labeled chemical bottle can help avoid unnecessary risks and potential accidents.

>>> PROPER STORAGE <<<

Chemicals should be stored according to their properties and hazards. In the case of picric acid, it should always be kept wet to prevent it from becoming anhydrous and thus highly explosive.

>>> REGULAR INSPECTIONS <<<

Regular checks of chemical storage areas can help identify any discrepancies and rectify them before they become hazardous. In this case, the anhydrous picric acid remained unnoticed until it was unexpectedly discovered. Regular inspections might have flagged this oversight sooner.

IN CONCLUSION

This incident has brought to light the need for vigilance and strict adherence to safety protocols when dealing with chemicals, particularly those of a hazardous nature. Let us use this as a learning opportunity to ensure that no such incident recurs in our community.

Safety Alerts

APRIL 2024 HEALTH, SAFETY AND ENVIRONMENT OFFICE

SAFETY ALERT

IMPORTATION OF RADIOACTIVE SUBSTANCES INTO HONG KONG

The use of radioactive materials for research is common but caution must be taken when purchasing such materials from overseas. It has come to our notice that some individuals may unknowingly acquire radioactive substances without realizing that they are in violation of Chapter 60K of the Import (Radiation) (Prohibition) Regulations.

SAFETY ALERT

In Hong Kong, the Radiation Ordinance (Cap 303) defines radioactive substance as any substance which consists of or contains any radioactive chemical element whether natural or artificial and whose specific activity exceeds 75 becquerels of parent radioactive chemical element per gram of substance.

Different countries have varying regulations regarding the import and use of radioactive sources. For instance, certain radioactive sources, like a Po-210 source with a radioactivity of 0.1 µCi (3700 Bq), might be exempt from licensing requirements in the United States according to the U.S. Nuclear Regulatory Commission (USNRC). However, in Hong Kong, the same source requires a license for import under the Import (Radiation) (Prohibition) Regulations. Non-compliance with licensing requirements in Hong Kong is considered an offense and can lead to severe penalties, such as a fine of $10,000 and imprisonment for up to 1 year. Researchers should be aware of these regulations to ensure compliance and avoid legal consequences.

An e-platform offers an Am-241 radioactive source with a radioactivity level <0.8 µCi (29600 Bq), which is not exempted by the Trade and Industry Department and Radiation Board.

To ensure the safety and compliance of our research and teaching activities, HSEO urges you to take the following actions:

1. If you plan to use any radioactive substances in your research or teaching, please contact the HSEO well in advance. This will allow sufficient time for the application of the import authorization required under the Radiation Ordinance.

2. The import authorization must be obtained before the delivery of any radioactive substances. It is crucial to ensure that all necessary permits and licenses are in place before making any purchases.

If you have any questions or need further guidance regarding the import authorization process or the Radiation Ordinance, please contact us at extension 6099 or via email at radhseo@ust.hk. We are here to assist you and provide the necessary information.

Safety Alerts

NOVEMBER 2024 HEALTH, SAFETY AND ENVIRONMENT OFFICE

SAFETY ALERT

LACK OF INFORMATION HINDERED EMERGENCY RESPONSE

In recent weeks, our research laboratories experienced two chemical incidents involving the spillage of 2.5L acetone and the evolution of hazardous gases due to the improper disposal of strong oxidizing nitric acid in a waste container.

Upon detecting the incidents, the emergency ventilation system and siren were activated to alert nearby researchers. However, it is concerning that the responsible individuals evacuated without providing essential information to emergency responders.

SAFETY ALERT

When emergency responders arrived on the scene, they encountered a lack of information regarding the specifics of the incident, including:

- The type and quantity of the spilled solvent.
- The nature of the acids disposed of and the potential hazards associated with them.
- The presence of any personnel who could provide insight into the situation.

This lack of communication hindered the emergency response efforts, creating a dangerous environment that could have been effectively managed with adequate information.

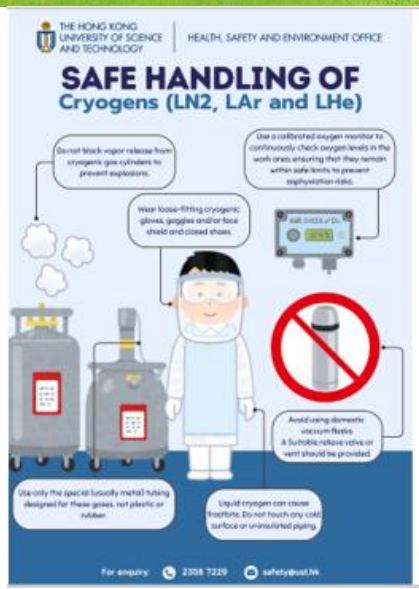
To improve our response protocols, we must ensure that:

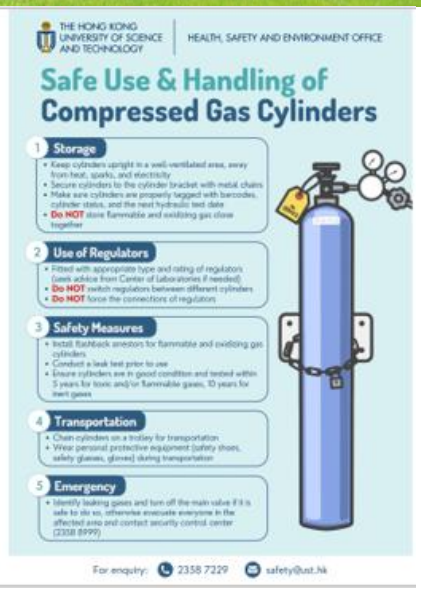
- All personnel should be trained on how to report incidents effectively, ensuring that key information is communicated to emergency responders. In the event of a hazardous materials spill, immediately notify the security control center at extension 8999.
- Responsible individuals should remain at the incident site until emergency services arrive, providing critical information about the situation.

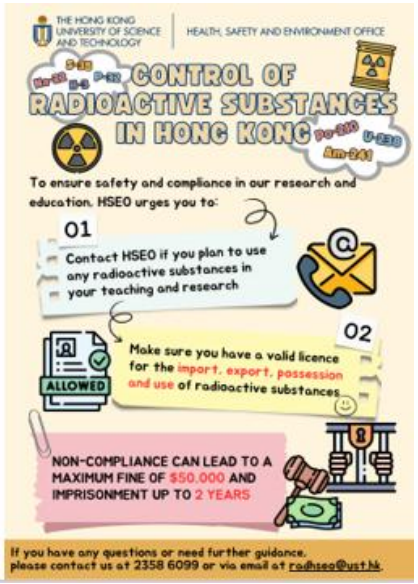
The recent chemical incidents serve as a critical reminder of the importance of safety in our university. By enhancing our communication protocols, we can prevent future occurrences and ensure the safety of all personnel.

HSEO has created a poster outlining "Key Steps for Responding to a Hazardous Chemical Spill" and encourages everyone to display it in designated areas as a helpful reminder.

Safety Posters







Safety Vidoes

HEALTH AND SAFETY VIDEOS

Safety Videos Produced by HKUST (NEW!)

- Hazardous Waste Management
- Emergency Response For Chemical Spill
- Working At Computer Workstation
- Fire Safety In Campus
- Manual Handling At Work
- General Office Safety

Enforcement Action to Ensure Safety

- Stops operations which involving a vessel (without a safety device) used in hydrothermal process

Accident Investigation

香港科技大學
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

RESTRICTED

CASE ID:
Further investigation by HSEO required:
☐ Yes ☐ No eceived on:
(FOR HSEO USE ONLY)

URGENT
HKUST INCIDENT / ACCIDENT REPORT FORM

Notes:
1 In case of a student or staff injury, their supervisor, Principal Investigator (PI), or Person-in-charge must collect and complete Part A-D of this form within seven days from the date of the incident or notification. The Departmental Safety Officer (DSO) should notify their Department Head and HSEO to ensure prompt reporting of all accidents and incidents. For staff injury, the DSO should email a copy and send the original to the HRO as soon as possible to comply with the time limit specified in the Employees' Compensation Ordinance for notifying the Labor Department and Insurer. For student injury, the form should be sent to
2 In the case of contractor staff injury, they may use their own form to document the incident/accident, unless there are no HKUST staff/students injured or property damaged. However, the responsible department/unit is still required to forward the relevant report or information to HSEO.
3 All personal data collected has been limited to the minimum required and to be handled in accordance with HKUST's Data Privacy Policy Statement. The information will only be used for investigation and related purposes within HKUST, ensuring strict confidentiality. Any requests for data access or correction can
4 Each form should document the details of one injured person. In cases where multiple injuries result from a single incident, DSO should coordinate the submission of multiple forms. If the person involved in the incident is unknown or numerous, the DSO should provide further details. Photos are recommended

PART A General Information

1) **Nature:** #a 2) **Required Operation Suspension?** #b 3) **Returned to Work/School for the Injured Person? (by report** #b

4) **Date:** 5) **Time:** 6) **Location:** #c 7) **Room No./Address:**

8) **Person Involved:**

☐ Student	Name:		Student ID:		Department: #d	Position:	
☐ Staff	Name:		Staff ID:		Department: #d	Position:	
☐ Contractor	Name:		Company:			Position:	
☐ Resident	Name:		Quarter:			Room No.:	
☐ Visitor/Public	Name:		Visiting Purposes:				
☐ Not Applicable/Unknown/Numerous	Details:						

9) **Description of the Incident:**
The situation of the Person, Equipment, Materials, Methods, Environment, Job Factors at the time of the incident
e.g. what the person was doing, main function of the location, what factors leading to the incident, how the person was injured, etc..

PART B Injured Person (IP) Information

Notes: This part is only applicable to injury incidents. Multiple injuries occurring in a single event should be documented on an individual form.

11) **Name of Injured:** 12) **Gender:** 13) **Contact No.:** 14) **Email:**
15) **Nature of Injury:** #e 16) **Part of Body Injury:** #f Details:
17) **Medical Arrangement(s):** ☐ First-aid ☐ Campus Clinic ☐ Hospital/ Other Clinic Details: ☐ None

PART C Investigation

Notes: This part provides preliminary investigation of the incident.

18) **Type of Incident:** #g 19) **Supporting Evidence:** ☐ Photo ☐ Witness statement
Details: ☐ CCTV Footage ☐ Others

20) **Any Causes and Contributing Factors Concerned in this Case?** *(can tick multiple*
☐ Human Factors (e.g. negligence, skill-based errors, mistakes, violations, communication, health/drug issues, etc...)
☐ Inadequate Knowledge or Skills ☐ Unsafe Condition (e.g. poor housekeeping, insufficient maintenance, adverse weather, etc...)
☐ Inadequate Protective Gears ☐ Unsafe Process / Improper Procedures ☐ Others
Please specify:

PART D Corrective Actions

21) Immediate Actions Completed	Completed Date	22) Actions Planned for Prevention of Recurrence	Target Date

PART E Confirmation

23) Supervisor/Principal Investigator/Person-in-charge	24) Departmental Safety Officer	25) Head of Unit/Director
Name:	Name:	Name:
Signature:	Signature:	Signature:
Date:	Date:	Date:

26) **Report Sending To:** a) HSEO (for all cases) b1) HRO (for staff injury) c) Others (Please specify)
b2) DSTO (for student injury)

Accidents in HKUST Labs …

HKUST Safety Incident Statistics 2024-2025

Summary of Injury Accidents

A total of 82 work/study/research-related injuries were recorded in the 2024/25 period, from July 2024 to June 2025:

- 26 cases involved HKUST staff;
- 44 cases involved HKUST students; and
- 12 cases involved contractors who are not HKUST employees but working on campus.

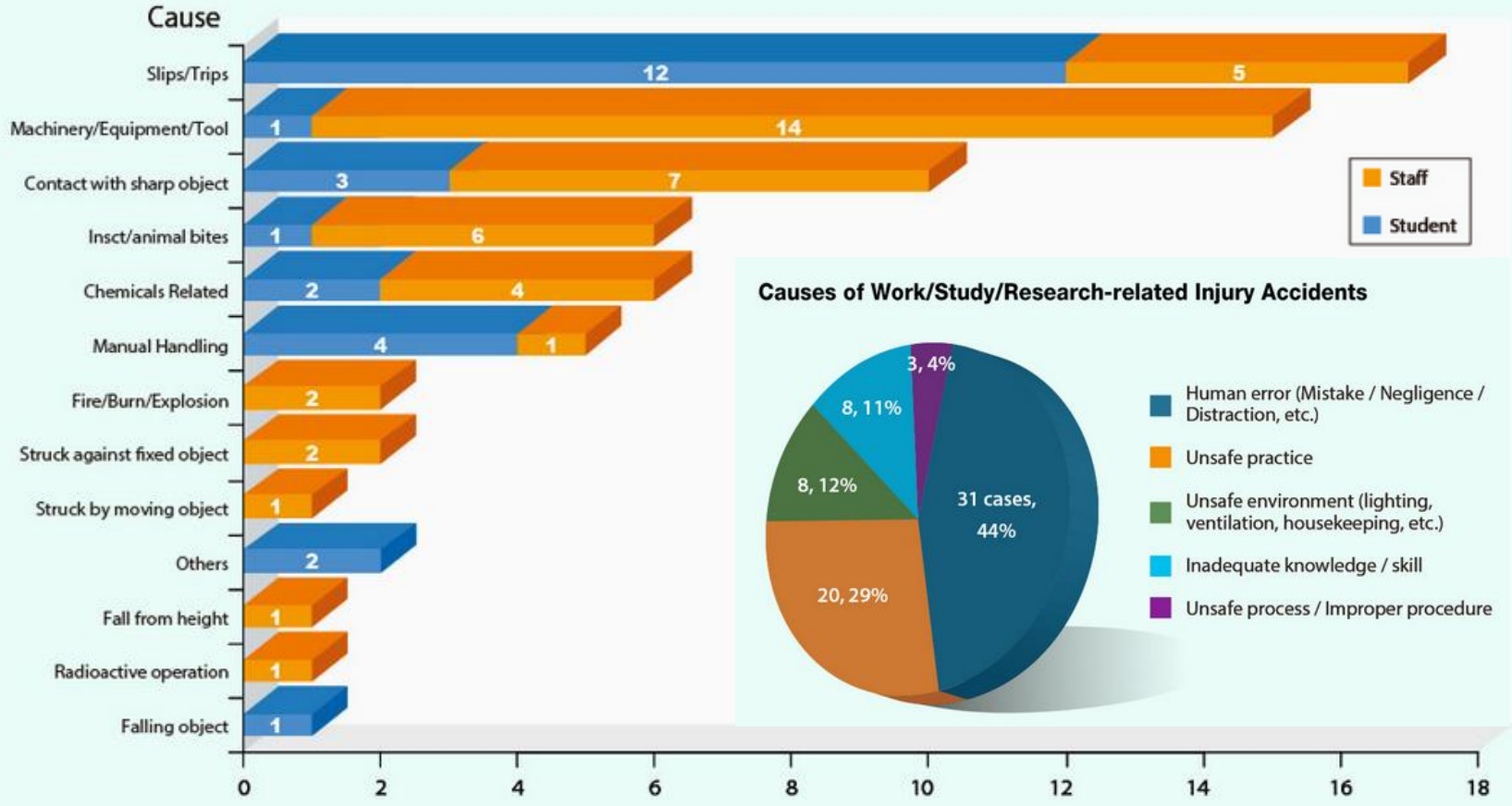
Table 1 illustrates the number of work/study/research-related injuries recorded over the past ten years. We are pleased to report a slight decrease in the number of injuries among staff and contractors. However, we have observed a concerning increase in student injuries, which rose from 23 cases last year to 44 this year. We have investigated the reasons behind this increase and identified two primary factors. First, injuries due to 'unsafe practice' have risen by 12 cases, where students did not adhere to established safety procedures. Secondly, an increase in injuries due to 'inadequate knowledge/skill' has led to 7 additional injuries. The results indicated the need for enhancing safety training and safety awareness among students.

Table 1: Numbers of Staff, Student and Contractor Injuries in the Past Ten Years

Year	2015	2016	2017	2018	2019	2019/ 2020	2020/ 2021	2021/ 2022	2022/ 2023	2023/ 2024	2024/ 2025
Staff	21	30	29	17	20	21	29	30	27	30	26
Student	12	14	16	27	19	22	23	23	64	23	44
Contractors	3	4	4	9	10	12	25	28	28	19	12
Total	36	48	49	53	49	55	77	81	119	72	82

HKUST Accident/Incident Statistics

Figure 3. Types of Work/Study/Research-related Injury Accidents for Staff and Students



Summary of Current Big Picture

- Most universities have established safety management program
- Safety policies and procedures established
- Many programs are just “paper programs”
- Poor execution and implementation
- Stake holders are not taking responsibility seriously
- Personnel handling hazardous operations are not trained

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Consequences of Underestimating Risk of Hazards and Ignoring Safety in Researches