

EHS Laboratory EHS Management Manual

ShanghaiTech University

Laboratory EHS Management Manual

(EHS - LSM 2025)

Name of Laboratory: _____
 Address: _____
 PI: _____ Phone: _____
 Safety Rep.: _____ Phone: _____

Emergency Contact

Emergency Contact Name: _____ Cell Phone: _____
 University Emergency Line (24h) : 2068-5110
 EHS Office / Emergency or Incidents Reporting: 2068-5200

Services & Support	Personnel	Contact
Overall safety management of the laboratories Application and review of new, renovated and expanded projects Sporadic construction approvals BME, SIAIS, iHuman, CRTC, 2060, etc.	Dongming Wang	2068-5166 13916706019 wangdm@shanghaitech.edu.cn
Risk assessment and approval Lab Safety Management System Biosafety & Gas Safety Lab Registration & Safety Training EHS Official Website & Archives Management	Ruiqing Li	2068-5184 lirq@shanghaitech.edu.cn
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Forward

Laboratory safety accidents in colleges and universities can cause damage to experimental instruments and facilities, delay or even termination of experimental progress, and cause casualties and adverse social impacts. A safe and stable environment is key to scientific research and study.

The purpose of laboratory environmental health and safety (EHS) management is to ensure the health and safety of laboratory personnel, improve laboratory safety, protect environment and prevent pollution. With the rapid development of university, strengthening EHS management is in great need.

This manual is compiled in accordance with pertinent laws, regulations, standards of university laboratories safety management, for the reference of laboratory managers and safety officers.

Due to interdisciplinary feature of research laboratories, EHS management covers a wide range of specific fields. Please contact us directly should you need in-depth communication. If you find any errors or have suggestions, please also contact us in time.

Office of Environment, Health and Safety
Rm.107, Admin. Building

EHS Website: <https://ehs.shanghaitech.edu.cn> email: EHS@shanghaitech.edu.cn

EHS Official Wechat Account

“上科大 EHS”



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Laboratory Safety Manual

1 Purpose

The purpose of this manual is to standardize the Environmental Health and Safety (EHS) management in university laboratories and ensure safe and smooth operation.

2 Applicability

This manual applies to all types of laboratories in the university.

3 Responsibilities

The Principal Investigator (PI) is the direct person responsible for the safety management of a laboratory and should strictly implement safety measures such as laboratory safety training and access, hazards recognition, and personal protection to ensure laboratory safety.

The laboratory safety officer may assist a PI in implementing specific safety measures.

4 Laboratory Registration

The construction, modification, and decommission of laboratories shall be registered in accordance with the Laboratory Registration Management System of ShanghaiTech University. Newly established and operating laboratories should register in the system at <https://labehs.shanghaitech.edu.cn/> for environment harmful to humans, such as high temperatures, low temperatures, radiation, pathogens, toxicity, lasers and dust. There must be workplace management and personal protective measures.

In case of modification and decommission of a laboratory, please resubmit application in the system accordingly.

The establishment, teaching and research activities of a laboratory are subject to the supervision of the university.

To decommission a laboratory, the following steps must be completed and reported to the EHS office for record-keeping:

- Decommission application to EHS
- Properly dispose of hazardous chemicals and wastes
- Properly management of instruments and equipment

- Properly dispose of experimental samples
- Thorough environmental cleaning and disinfection

5 Documentation of Laboratory Safety

Laboratories shall establish safety documentation as required. The safety documents should include, for example, laboratory rules and regulations, personnel management, risk assessment, list of safety hazards, safety operating procedures, laboratory floor plans, emergency plans, weekly safety inspection records, etc.

6 Laboratory Risk Assessment

Before carrying out scientific research projects in the laboratory, a risk assessment of the experimental projects must be conducted to analyze potential risks, hazards, and conduct corresponding protective measures.

Laboratory risk assessment can be made through the system website at: <https://labehs.shanghaitech.edu.cn/> in the "Risk Management" module.

As a prerequisite, risk assessment must be submitted prior to the purchase and use of dangerous experimental materials.

When applying for scientific research projects that require proof of laboratory safety audit, a risk assessment must be used as a precondition.

7 Laboratory Rules and Regulations

The university has established general laboratory safety rules based on national and governmental laws, regulations, and standards. Those rules include Laboratory Chemical Safety, Biosafety, Hazardous Waste Management, and Special Equipment Safety, and other safety rules.

These rules and regulations can be accessed at the EHS official website: <https://ehs.shanghaitech.edu.cn/> on the homepage under "Laboratory Safety Rules".

Individual laboratory should establish safety rules tailored to the characteristics of its hazardous materials and potential risks.

8 Laboratory Personnel Training and Management

Laboratories should strictly control access to experimental areas to prevent unauthorized entering. Laboratories should organize all personnel to participate in

laboratory safety exams, and experimental activities can only be conducted after passing the test. The laboratory safety training system can be accessed at: <https://labehs.shanghaitech.edu.cn/> under "Training Management" - "My Training".

Laboratories should organize regular personnel training and keep records, with content covering the safe use and disposal of hazardous materials, safe operation, personal protection, facility and fire safety, equipment safety management, emergency response, and other safety concerns.

Laboratories should regularly conduct emergency drills based on potential risks per lab.

9 Management of Hazardous Materials

In compliance with the Ministry of Education's guidelines, laboratories has established a hierarchical categorization system for laboratory safety management.

Laboratories are advised to manage hazardous materials according to different classes and categories. The hazardous materials classification form can be obtained at: <https://ehs.shanghaitech.edu.cn/> under "Resources" - "Downloads".

Laboratories should establish a list of hazardous materials and strictly control the use, transportation, storage, and disposal.

Hazardous sources include dangerous reaction processes, dangerous chemicals and hazardous waste, compressed gases, pressure containers, radioactive substances and radiation devices, high-temperature and high-pressure equipment, etc. The safety management of hazardous sources should comply with the various laboratory safety rules.

Relevant laboratories should establish safety management documents such as laboratory chemical inventories, controlled substances ledgers, special equipment maintenance records, enrollment of lab personnel using Class III radiation devices, emergency response procedures, etc.

10 Laboratory Safety Inspection

Laboratories should conduct safety inspections on a regular basis, promptly addressing any potential safety hazards and implement pertinent precautions. The inspection module in EHS system (<https://ehs.shanghaitech.edu.cn>) can be used to submit the safety findings.

Daily hygiene and safety inspection record form, as well as the monthly fire extinguisher inspection form, can be obtained from the EHS official website: <https://ehs.shanghaitech.edu.cn/> under "Resources" - "Downloads".

11 Construction, Renovation, and Expansion of Laboratory

For new, renovated, and expanded laboratory projects, great consideration should be given to safety precautions, and applications should be submitted to the EHS office for safety assessment prior to implementation. The layout design of newly constructed laboratories should follow basic requirements:

- The laboratory should have a scientifically reasonable and safe spatial layout.
- The construction and decoration of the laboratory must comply with fire safety regulations (including clean rooms, cell labs, etc.).
- Reasonable planning should be made for vibration damping and noise reduction measures of experimental equipment.
- The plumbing, electricity, and gas lines in the laboratory should be laid out reasonably, ensuring the functionality of the water, electricity, and drainage systems.
- Chemicals should be stored in dedicated area.
- Hazardous waste temporary storage points should be set up.
- Ventilation systems that meet design specifications should be equipped in laboratories where ventilation is required, ensuring that fume hoods are configured reasonably, function normally, and are operated in compliance with regulations.
- Laboratories with explosion-proof requirements must meet explosion-proof design requirements.
- Gas lines and compressed cylinders must be connected correctly.

12 Approval of Regulated Experimental Materials

For the declaration of controlled chemicals, biological infectious materials (BSL-2 and above), and special items for custom inspection and quarantine, application should be made to the EHS Office first.