

## **Education Bureau Circular Memorandum No. 132/2022**

From : Secretary for Education                      To: Supervisors and Heads of all secondary schools  
Ref : (20) in EDB/CDI/SC/909/7  
Date : 8 August 2022

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### **Laboratory Safety and Management in Secondary Schools**

(Note: This circular memorandum should be read by supervisors, school heads, teachers of the Science Education Key Learning Area and laboratory technicians of secondary schools.)

#### **Summary**

The purpose of this circular memorandum (CM) is to remind schools of the salient points to note for monitoring and maintaining the high standard of laboratory safety and management. Heads of secondary schools are requested to circulate this CM to all science teachers and laboratory technicians, and to coordinate related arrangements.

#### **Details**

2. Schools are held responsible for complying with regulations in connection with safety in school science laboratories and taking all the necessary safety precautions to maintain a safe learning and working environment in the laboratories. Every school should have an effective safety management system in place (e.g. setting up a standing committee on laboratory safety) to ensure that safety measures are properly implemented and any emergencies occurring in science laboratories are dealt with in an effective and efficient manner.

3. Schools should adopt necessary safety precautions to protect staff's and students' safety at science laboratories. Some of the essential safety precautions are listed below.

#### **General Safety Management**

- Students are only allowed to enter science laboratories in the presence of and with the permission of teachers;
- The preparation rooms and chemical storerooms should not be accessible to students and unauthorised staff;
- The Standing Committee on Laboratory Safety (or its equivalent) in schools should convene meetings regularly to discuss various issues related to laboratory safety, such as formulation or revision of laboratory safety policies and rules, review of laboratory accidents occurred and preventive measures that can be

taken, implementation of risk assessments for science experiments, and formulation of emergency plan for dealing with emergency cases; and

- School heads, science teachers in charge of laboratories, and laboratory technicians should ensure compliance with relevant safety rules according to the handbook “Safety in Science Laboratories” (2013) (website: [https://cd1.edb.hkedcity.net/cd/science/laboratory/safety/SafetyHandbook2013\\_English.pdf](https://cd1.edb.hkedcity.net/cd/science/laboratory/safety/SafetyHandbook2013_English.pdf)).



## Chemical Management

- Schools should ensure proper management of chemical acquisition, storage and usage, including performing regular inspections of the types and quantities of the chemicals. Chemicals should be labelled properly;
- Over-stocking of chemicals should be avoided. Storage of dangerous goods in the laboratories should not exceed the exempt quantity specified in *the Dangerous Goods (Application and Exemption) Regulation 2012* (Cap. 295E)<sup>1</sup>;
- Chemical inventory should be reviewed and updated regularly. This inventory should show all existing chemicals and their locations clearly;
- Incompatible chemicals should be stored separately. Hazardous chemicals should be kept in locked cupboards located at laboratories or chemical storerooms;
- Laboratories and preparation rooms should be locked when not in use. Chemicals should be stored in a locked laboratory, preparation rooms and/or chemical storerooms, and should not be accessible to students;
- The chemicals stored in school laboratories serve the purpose of learning and teaching only. Schools should follow up immediately if there is unreasonable requests on chemical use or chemicals are found stolen; and
- Schools are required to register with the Environmental Protection Department (EPD) as chemical waste producers and to store and dispose of chemical wastes properly<sup>2</sup>. School should follow the guidelines on the segregation, packaging, labelling and storage of chemical wastes as well as the chemical waste handling procedures for schools prepared by the EPD for disposing of chemical wastes. The guidelines are available at [https://cd1.edb.hkedcity.net/cd/science/laboratory/waste/cw\\_e.htm](https://cd1.edb.hkedcity.net/cd/science/laboratory/waste/cw_e.htm).



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<sup>1</sup> The amended Dangerous Goods Ordinance and its Subsidiary Legislation came into effect on 31 March 2022. For details, please refer to the website of Fire Services Department (<https://es.hkfsd.gov.hk/dg/en/>)

<sup>2</sup> Please refer to EDB Circular No.8/2022 “Control of Chemical Wastes in Secondary Schools” for the details of the guidelines on the control and handling of chemical wastes in secondary schools.

## Safety with Experiments

- Before conducting practical activities, teachers should ensure that risk assessment has been conducted to evaluate the potential hazards in practical activities and ensure appropriate control measures have been taken;
- Any demonstrations or student experiments that are newly conducted should be tried out and adapted for the sake of safety (if applicable) before they are performed in class to avoid any unpredictable mishaps;
- Before each experiment, teachers should give clear instructions to students and remind them of the potential hazards, safety precautions to take and proper ways to dispose of chemical wastes; and
- As far as possible, teachers should note the health conditions of students so that precautions can be taken where appropriate. Teachers should also give sufficient supervision and guidance to students during experiments.

4. Schools are advised to encourage their teachers and laboratory technicians to participate in training courses organised by the Education Bureau (EDB) with a view to refreshing and enriching their knowledge of laboratory safety and management. Meanwhile, various resources on laboratory safety and management have been developed by the EDB for schools, including the handbook “Safety in Science Laboratories”, a learning package of “Learning and Teaching Resources on Safety in Science Laboratories”, laboratory safety posters and hazard warning labels, and a series of web-based courses on laboratory safety and management. Schools should make good use of these resources for maintaining high safety standard of school laboratories. For details of the above resources, please visit the EDB webpage (<http://www.edb.gov.hk/cd/sc> > References & Resources > [Laboratory Safety and Management](#)).



## Enquiry

5. For enquiries, please contact the Science Education Section, Curriculum Development Institute, Education Bureau at 3698 3438.

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for Secretary for Education

c.c. Heads of sections and primary schools – for information