GUIDELINES FOR GENERAL LABORATORY SAFETY

General Rules and Regulations

Each laboratory is unique in its operation and carries its own risk. It is the obligation of users to observe safety rules and regulations of each laboratory. Below are general safety guidelines applicable to most laboratories.

1. Proper procedures and safety precautions should be followed when experiments are performed.

2. Users are required to observe the necessary legislative ordinances when life specimens are involved in the experiment. Regulations should be followed in handling materials of potential biological and chemical hazards.

3. Fire exits should be cleared of obstacles. Make sure that fire-fighting equipment is available at convenient locations. Emergency response procedures, alarm systems and building evacuation routes should be posted.

4. Personal protection equipment should be available and used in the laboratory whenever necessary. Proper Eye Protectors must be worn as an absolute minimum in laboratories using hazardous chemicals, dangerous machinery, laser equipment or biological agents.

5. Be alert to unsafe conditions and actions, and bring them to the attention of your supervisor or the Departmental Health and Safety Officer so that remedial action can be made as soon as possible. There should be strong communication link between Departmental Health and Safety Officers and the Administrative Support & Estates Management Office. Sufficient professional advice and support should be obtained from these channels. Caring about the health and safety of your fellow workers will be rewarding. Incidents or accidents happening to them may involve you as well.

6. No food and beverages or use of make-up are allowed in the laboratory. Smoking is strictly prohibited. Glassware or containers that had been used for laboratory operations should never be used for preparing or keeping food or drinks. Food storage is not permitted in laboratory freezers, refrigerators, ice chests, or cold rooms.

7. Be fully understood the potential hazards of equipment and substances, and take the appropriate precautions before using them. For those potentially hazardous substances or equipment that you are not familiar with, refer to the Material Safety Data Sheets (MSDSs), technical manuals or other information sources kept in your department, or consult your supervisor.

8. Follow disposal procedures for chemical wastes. Experimental apparatus may require traps or scrubbing devices to prevent the escape of toxic substances into the laboratory and the environment.

9. Make sure that all containers of hazardous substances (chemicals, biological agents or radioactive substances) are correctly and clearly labeled.
10. Accidents often happen when heating processes are left unattended. Experiments involving a heating process should be constantly monitored. The built-in temperature control of heating equipment such as hot plates and heating mantles should not be overly relied upon. When a stable and even temperature is required, a heating bath is recommended. Water baths can be used up to about 80°C. Paraffin is suitable up to about 150°C but is still flammable at high temperatures. Silicone oils can be used for temperatures up to 300°C.

11. Warning signs should be posted to alert attentions in the work area when unusual hazards, such as radiation, laser operations, dangerous chemicals, biological hazards, or other special hazards exist.

12. Remain out of the area of a fire or personnel injury unless it is your responsibility to handle the emergency. Curious bystanders interfere with rescue by emergency personnel, and endanger themselves.

13. Never distract or startle other workers. Practical jokes or horseplay in the laboratory cannot be tolerated at any time.

14. Equipment should only be used for its designed purpose. Inappropriate choice of equipment, such as the use of ordinary glassware for heat-generating chemical reactions, has led to serious accidents before.

15. Place and handle your reaction apparatus carefully. Do not use excessive force. Plan the experiment so that it is not necessary to move it until the reaction is completed.

16. Confine long hair and loose clothing when in the laboratory. Shoes must be worn at all times in buildings where chemicals are stored or used. Sandals or open toe shoes are not acceptable.

17. No mouth pipetting in the laboratory.

18. Avoid exposure to gases, vapours and aerosols in the laboratory. Use appropriate safety equipment and work in a fume hood whenever such exposure is likely.

19. Always wash your hands and forearms with soap and water before leaving the laboratory area. Washing with solvents can remove the natural protective oil layer from the skin and can cause irritation and inflammation.

20. Deal with spills of all hazardous substances without delay according to detailed procedures in respective Departmental Health and Safety Guidelines. Potential leaks of any substances, including lubrication oil from vacuum pumps, should be dealt with by using a suitable drip tray as a precaution to contain the spills.