

KUTAHYA DUMLUPINAR UNIVERSITY
GUIDELINES FOR WORKING IN CHEMISTRY LABORATORIES

This instruction has been prepared to ensure the safety of employees working in the chemistry laboratories of Kütahya Dumlupınar University, to minimize chemical risks, and to ensure compliance with the Occupational Health and Safety Law No. 6331. All staff members and students are obliged to comply with these instructions.

1. GENERAL RULES

- a) Do not work alone in the laboratory. All experiments must be conducted under the supervision of the responsible faculty member or authorized staff.
- b) Do not touch experimental setups, chemicals, or equipment without the permission of the responsible person.
- c) Eating, drinking, and using laboratory equipment for these purposes is prohibited in the laboratory.
- d) From the moment you enter the chemistry lab, you must wear appropriate protective eyewear until you leave the lab, even if no experiments are being conducted.
- e) Appropriate protective goggles, chemical-resistant gloves, a lab coat, and closed-toe shoes are mandatory when working in the chemistry laboratory. Long hair should be tied back, loose clothing and jewelry should be removed.
- f) Personal belongings such as mobile phones and bags should be left outside the laboratory or stored in designated areas.
- g) Work areas must be kept tidy and clean.
- h) Before leaving the laboratory, water, gas, electricity, and heating devices must be turned off and checked.

2. WORKING WITH CHEMICAL SUBSTANCES

- a) Chemicals should not be handled with bare hands, smelled, or tasted.
- b) Acids should be added to water slowly and stirred; water should never be added to acid directly.
- c) Pipetting should not be done by mouth; a bulb or automatic pipette should be used.
- d) A fume hood should be used when working with toxic gases, volatile, and/or hazardous chemicals. Chemicals should be kept at least 15 cm deep inside the fume hood.
- e) Chemical waste should not be disposed of in sinks; it should be collected in appropriately labeled containers in accordance with the Regulation on the Classification, Labelling, and Packaging of Chemical Substances and Mixtures and delivered to licensed waste disposal facilities.
- f) Chemicals that may react with each other (e.g., oxidizers and reducers) should be stored separately, and chemical substance cabinets should be checked regularly.

- g) The Material Safety Data Sheet (MSDS) must be read for each chemical and kept in an easily accessible location in the laboratory.
- h) Before conducting any experiment, the potential reaction risks (flammable, explosive, toxic) of the chemicals to be used must be evaluated.
- i) All chemical containers must be clearly labeled with their contents, hazard symbols, and expiry date information.

3. EQUIPMENT USAGE

- a) Equipment must be operated in accordance with the instruction manuals and used only by trained and authorized personnel.
- b) The fume hood must be ventilated before operation, and the fan speed must be checked at an appropriate level.
- c) Equipment must be supervised during operation and never left unattended. Electrical equipment should not be used with wet hands.
- d) Glass containers should not be completely sealed during heating or pressurized processes; care must be taken to avoid the risk of explosion.
- e) Equipment malfunctions or abnormal behavior must be reported immediately to the responsible person, and faulty equipment should not be used.
- f) Up-to-date operating instructions must be kept with each device, and operations must be carried out in accordance with these instructions.

4. EMERGENCIES AND FIRST AID

- a) Small spills should be cleaned with appropriate absorbent materials; in case of large spills, the area should be evacuated and the responsible person should be notified.
- b) In case of chemical burns, the area should be washed with water for at least 15 minutes; in severe cases, a health unit should be contacted.
- c) In case of chemical splashes, eyes should be washed at an eye wash station for at least 15 minutes, and contact lenses should be removed.
- d) Do not induce vomiting; follow the instructions in the MSDS and immediately seek medical assistance.
- e) In case of fire, the laboratory should be evacuated, an appropriate fire extinguisher should be used, and the fire department should be notified.
- f) Regular inspections should be carried out by the laboratory manager.
- g) Emergency numbers (fire department: 112, security: 4431153, etc.) must be displayed in a visible location in the laboratory.

5. LEGAL COMPLIANCE AND RESPONSIBILITY

- a) Laboratory staff must undergo occupational health and safety training in accordance with Law No. 6331, and these trainings must be documented.
- b) In case of non-compliance with these instructions, the relevant person shall be liable for any resulting financial, legal, and criminal consequences.

SIGNATURE AND COMMITMENT

This instruction manual must be read and understood by all responsible staff and students working in the laboratory, and must be committed to by signing it as stated below.

Date:...../...../20.

Notified By

Name and Surname:

Signature:

Received By

Name and Surname:

Signature:

