جامعة خليفة
Khalifa University

Hazardous Material Management Procedure

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1. INTRODUCTION

1.1 Purpose

This procedure provides clear steps for safely managing, storing, using, and disposing of hazardous materials at Khalifa University. Its goal is to protect students, staff, faculty, and the environment from any harm caused by these substances.

1.2 Scope

This procedure applies to all KU community including staff, faculty, students, contractors, and visitors engaged in activities that involve the handling, storage, use, or disposal of hazardous substances on KU premises.

2. DEFINITIONS

Hazardous Material	Any substance posing risks during handling, storage, transport, or disposal (e.g., cleaning agents, lab reagents, compressed gases).
Mitigation	Measures taken to reduce the consequences of a potential hazardous event. The limitation of undesirable effects of a particular event.
Substance	Any chemical element and its compounds and any biological entity or microorganism, except radioactive substances or genetically modified organisms
Exposure Routes	Pathways for hazardous substances to enter the body: inhalation, ingestion, absorption, injection, or through cuts**.**
Chemical Abstracts Service	Unique identifier for chemicals (CAS number).
Globally Harmonized System	International system for standardizing chemical hazard classification and labeling. An United Nations system that addresses classification of chemicals by types of hazards and proposes.
Safety Data Sheet	A safety data sheet is a form containing data regarding the properties of a particular substance.
Departmental Environment, Health, and Safety Representative	A designated individual responsible for ensuring compliance with environmental, health, and safety regulations within their department.

3. Abbreviations

- **EHS:** Environment, Health, and Safety
- **KU:** Khalifa University of Science and Technology
- **PPE**: Personal Protective Equipment
- **SDS**: Safety Data Sheet (provides safety information for chemicals).
- **UN/EEC:** United Nations/European Economic Commission.
- **GHS:** Globally Harmonized System of Classification and Labelling of Chemicals
- **LEV:** Local Exhaust Ventilation
- **CAS:** Chemical Abstracts Service
- **HAZMAT:** Substances posing physical/health hazards (e.g., flammables, toxics, corrosives).

4. Roles and Responsibilities

- **Division Management**
  - Oversee implementation and maintenance of this procedure within their departments.
- **Environment, Health, and Safety Management**
  - Monitor overall implementation, effectiveness, and compliance.
  - Communicate procedure requirements across KU.
  - Identify and coordinate training needs.
- **Environment, Health, and Safety Team**
  - Oversee the implementation of this procedure.
  - Support supervisors/employees in hazardous material management
  - Investigate incidents, develop action plans and incident reports.
  - Conduct inspections, audits, and training.
- **Departmental Environment, Health, and Safety Representative**
  - Implement the procedure in their respective laboratory.
  - Identify, evaluate, and document risks using the EHS Risk Register.
  - Ensure SDS accessibility for all lab personnel.
  - Enforce proper labeling, handling, and storage protocols.
  - Report incidents via the EHS incident reporting online system.
- **Faculty, Researchers, and Students:**
  - Handle and dispose of materials per approved procedures.
  - Complete all mandatory training.
  - Report all incidents and spills immediately.
- **Procurement Department:**
  - Source hazardous materials following safety and regulatory standards.

- **Waste Management Contractor:**
  - Handle and dispose of hazardous waste in full regulatory compliance.

5. Procedure

5.1 Hazardous Classification

- Proper classification of hazardous materials is critical for ensuring their safe handling, storage, and disposal. All hazardous substances used, stored, or transported at KU must be classified according to the Globally Harmonized System (GHS) of Classification.
- Hazardous Materials are categorized into classes, which indicate the nature and severity of the hazard. These classes guide labeling, storage, emergency response, and disposal methods.
- **Class 1A (General Hazards)**
  Materials with general hazardous characteristics that align with GHS criteria.
- **Class 1B (Specific Hazards)**
  - **Physical Hazards**
    Materials that may cause fires, or explosions,.
    Examples: Flammable liquids, oxidizers, self-reactive substances, compressed gases.
  - **Health Hazards**
    Substances that may cause injury, illness, or disease through exposure.
    Examples: Skin corrosives, respiratory sensitizers, acutely toxic chemicals.
  - **Environmental Hazards**
    Substances that may cause long-term or acute damage to the environment, particularly aquatic life.
    Examples: Pesticides, mercury compounds, oil-based substances.

5.2 Hazard Identification and Risk Assessment

- Before introducing any hazardous material, perform a hazard identification and risk assessment using the EHS Risk Register to record risks and control measures (ventilation, PPE, storage requirements).

5.3 Procurement

- Hazardous materials must be purchased only from approved vendors.

- Orders should be limited to the quantities required for immediate or short-term use.
- All chemical orders must be pre-approved by the EHS Department.
- Each delivery must be accompanied by a Safety Data Sheet (SDS) provided by the supplier.

5.4 Receiving and Inventory Management

- Inspect all deliveries for damage or tampering.
- Update the Chemical Inventory List every 6 months with the chemical name, quantity, location, and expiration date.
- An up-to-date inventory of all hazardous materials must be maintained by each department and submitted to EHS regularly. The inventory must include:
  - Chemical/trade name
  - CAS number
  - GHS classification and hazard class
  - UN Number and Packaging Group (where applicable)
  - Quantity and unit
  - Storage location
  - Expiration date
  - Supplier/manufacturer details
  - Hazard Symbols (refer Appendix 1)

5.5 Labeling and Storage

- **Labeling**
  - Ensure that all containers are properly labeled with:
    - Chemical name
    - Hazard symbols (GHS)
    - Date received or opened.
    - User's initials (if opened)
    - Unmarked containers are prohibited.
  - For chemicals classified under international transport regulations, the corresponding United Nations (UN) number and packaging group must be included on the label and transport documentation.
- **Storage**
  - Store chemicals by compatibility group using appropriate containment and segregation methods.
  - Use designated storage (flammables in fire cabinets, ventilated areas for volatiles).
  - Use lockable, ventilated cabinets with proper signage.

- Keep incompatible chemicals at least 6 meters apart or use separate chemical cabinets.
- Store liquids below eye level.
- Use secondary containment (spill trays) for liquids.
- Restrict access to authorized personnel only.

5.6 Safety Data Sheets (SDS)

- Every hazardous material must be accompanied by a valid Safety Data Sheet (SDS) prepared in accordance with GHS standards.
- SDSs must be readily accessible in the work area and updated at least every three years. The SDS provides essential information on:
  - Identification and composition
  - Hazards and first aid measures
  - Safe handling and storage practices
  - Exposure controls and PPE requirements
  - Spill, leak, and disposal procedures

5.7 Safe Handling and Usage

- Use fume hoods and PPE(gloves, goggles, lab coats as specified in SDS), when handling hazardous materials.
- Review SDS before use. Prohibit eating or drinking in chemical areas.
- Keep emergency showers, eyewash stations and fire extinguishers nearby and accessible.

5.8 Waste Management

- Segregate hazardous waste by type (e.g., flammable, corrosive).
- Label all waste containers clearly (e.g., "Hazardous Waste – Acid").
- Do not mix different types of waste.
- Store waste securely and schedule disposal with a Tadweer-approved contractor.
- Follow KU Waste Management Procedure - KU – ADFHS – EHS – SOP – 01

5.9 Transportation

- Use sealed, compatible containers for moving hazardous materials.
- Use carts with spill-proof trays.
- For off-campus transport, comply with national/international transport rules.
- Transportation of chemicals inside campus shall be always supervised by trained lab staff.

5.10 Emergency Procedures

- In case of a spill, fire, or exposure:
  - Activate Emergency Plan by calling Emergency Control Room ext 3999.
  - Alert people and evacuate if needed.
  - Use SDS to identify cleanup procedures.
  - Report the incident to EHS immediately.
  - Complete the incident report form within 24 hours.

5.11 Inspections & Audits

- EHS will conduct regular inspections of storage areas, labs, and waste zones to ensure compliance.
- Inspection records will be kept for 5 years.

5.12 Training and Competency

- Ensure all personnel receive training on hazardous material handling, SDS interpretation, emergency response, and proper use of PPE.

5.13 Documentation

- Maintain updated SDS, Inventory Log, Incident Reports, Training and Drill Records.

5.14 Regulatory Reporting

- **External Reporting to Authorities:**
  - The EHS department submits periodic reports to the Abu Dhabi Public Health Centre on:
    - Chemical usage, incident records, and waste disposal logs.
  - Non-compliance may result in disciplinary action or work stoppage.

6. Review and Update

This procedure will be reviewed and updated triennially to ensure compliance with organizational and regulatory requirements.

7. Related Documents

- EHS Risk form
- Risk management Procedure
- Emergency Management Procedure
- Incident Reporting & Investigation procedure
- First Aid Procedure

- Personal Protective Equipment Procedure
- Hazardous Inventory List

8. Reference Standards:

- ADOSH-SF – Codes of Practice CoP-01 (Hazardous Materials)
- ISO 45001:2018 (Occupational Health & Safety).
- ISO 14001:2015 (Environmental Management).

9. Appendix

- Appendix 1: Figure- Hazard Symbols

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REVISION HISTORY RECORD

REV.	REVISION DATE	DESCRIPTION OF REVISION		REVIEWED BY	APPROVED BY
		PAGE NO	COMMENT		
Version 01 Revision 00	07/06/2018	All	Change of logo	Roberto M.	Belal I.
		Throughout	Change from KUSTAR to KU	Roberto M.	Belal I.
		Throughout	Change the reference from AD EHSMS to OSHAD SF	Roberto M.	Belal I.
		02	Prepared by Reviewed / Updated by, Endorsed for Approval by, and Approval & Issue by	Roberto M.	Belal I.
		25	Change the reference from AD EHS Center to OSHAD	Roberto M.	Belal I.
		25	Reference Standard from ISO 14001:2004 to ISO 14001:2015	Roberto M.	Belal I.
		25	Reference Standard from OHSAS 18001 2007 to ISO 45001:2018	Roberto M.	Belal I.
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