

Safety and Incident Management Plan

Material Handling Lab

Department of Mechanical and Production Engineering (MPE),
Ahsanullah University of Science and Technology (AUST)

Introduction

The Material Handling Lab at the Department of Mechanical and Production Engineering (MPE) of Ahsanullah University of Science and Technology (AUST) is dedicated to providing students with practical knowledge and hands-on experience in operating and understanding contemporary material handling systems. Equipped with state-of-the-art machinery, including bucket conveyors, screw conveyors, belt conveyors, roller conveyors, and apron conveyors, the lab plays a vital role in bridging theoretical concepts with industrial applications.

Objective

To establish a comprehensive plan for the prevention and management of incidents and accidents in the Material Handling Lab, ensuring the safety of students and staff while meeting accreditation requirements.

1. Laboratory Safety Rules

1. General Rules

- Students must wear appropriate personal protective equipment (PPE), including gloves, safety goggles, and sturdy, closed-toe footwear.
- Access is restricted to authorized students and staff during lab sessions.
- Eating, drinking, and the use of mobile phones are prohibited.
- All individuals must familiarize themselves with the location of emergency exits and safety equipment before starting any lab activity.

2. Behavioral Rules

- Follow the instructions of the Lab In-Charge and Lab Assistant/Attendant at all times.
- Maintain a safe distance from moving parts of equipment during operation.
- Avoid loose clothing or accessories that could get entangled in machinery.

3. Equipment-Specific Safety Rules

- Inspect conveyors (bucket, screw, belt, roller, and apron) for operational readiness before use.
- Do not exceed the load limits specified for any material handling equipment.

- Ensure all safety guards and shields on conveyors are securely in place.
 - Turn off and lock out power supplies before performing any adjustments or maintenance on equipment.
-

2. Safety Procedures and Practices

1. Before Lab Sessions

- The Lab In-Charge conducts regular inspections of all material handling equipment for proper functionality.
- The Lab Assistant/Attendant ensures that emergency stop switches on all machinery are operational.
- Safety briefing sessions are conducted at the beginning of each semester to educate students on lab rules and equipment-specific hazards.

2. During Lab Sessions

- Students work under the direct supervision of the Lab Assistant/Attendant.
- The Lab Assistant/Attendant monitors the use of equipment and enforces safety compliance.
- All handling operations must follow approved protocols to prevent overloading or improper use of machinery.

3. After Lab Sessions

- Machines must be powered down and checked for wear or damage.
 - The Lab Assistant/Attendant ensures all safety guards and shields are intact and reinstalls any removed for inspection or maintenance.
 - Debris and waste materials are properly disposed of to maintain a safe and clean environment.
-

3. Provisions in Case of Accidents and Health Hazards

1. Emergency Equipment

- **First Aid Kit:** Stocked and accessible, containing basic medical supplies like antiseptics, bandages, and burn ointments.
- **Emergency Shut-Off Switches:** Clearly marked and functional on all conveyors.
- **Fire Safety Equipment:** Fire extinguishers and blankets are regularly inspected and located near the lab exit.

2. Emergency Response

- **Minor Incidents:**

- The Lab Assistant/Attendant provides immediate first aid and records the incident in the Lab Incident Report Log.
 - **Major Incidents:**
 - The Lab In-Charge contacts the designated Warden and Assistant Warden, part of the AUST Fire/Disaster Safety Team, for further assistance.
 - Emergency services are alerted if required.
3. **Evacuation Procedures**
- Follow AUST's established evacuation plan in case of emergencies.
 - The Lab In-Charge leads the evacuation process while the Lab Assistant/Attendant ensures all students have exited the lab safely.
-

4. Roles and Responsibilities

1. Lab In-Charge

- Oversees overall lab safety, including equipment inspections and adherence to protocols.
- Organizes safety training and audits.
- Coordinates emergency responses and communicates with the Warden and Assistant Warden as needed.

2. Lab Assistant/Attendant

- Conducts routine checks on equipment and safety devices.
- Supervises lab activities to ensure compliance with safety rules.
- Assists in administering first aid and supports evacuation efforts during emergencies.

3. Students

- Adhere to all safety instructions and report hazards or incidents promptly.
 - Use equipment responsibly and follow approved procedures.
 - Avoid tampering with safety features on machinery.
-

5. Documentation for Accreditation

1. Safety Guidelines

- A manual containing detailed safety protocols for operating material handling equipment, available for all students and staff.

2. Incident Records

- Maintain a Lab Incident Report Log documenting all accidents, near-misses, and corrective actions taken.

3. Inspection and Training Logs

- Record equipment inspections, safety drills, and student safety training sessions conducted regularly.
-

Conclusion

This plan ensures the safe operation of the Material Handling Lab and provides a framework for incident prevention and management. Regular reviews and updates to safety protocols, coupled with proper documentation, will meet accreditation standards and create a secure environment for all lab users.