

INDUSTRIAL HYGIENE

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2/28/2016

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HOUSEKEEPING AND WORKPLACE PHYSICAL ARRANGEMENTS



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Session/LessonPlans



OBJECTIVES

- State the definitions of housekeeping and physical arrangements of the workplace
- List 5 types of accidents related to untidy workplaces
- Explain 5 factors to be considered in good housekeeping and workplace physical arrangements
- Identify statutory requirements related to good housekeeping and workplace physical arrangements

SCOPE

- Definition
- Statutory Requirements
- Why should we pay attention to housekeeping at work?
- What is the purpose of workplace housekeeping?
- Housekeeping and Physical Arrangements
- Types and Causes of Accidents

SCOPE

- Types and Causes of Diseases
- Planning and Scheduling of Housekeeping and Physical Arrangements
- Factors for the Prevention of Accidents and Diseases
- Steps to Improve Housekeeping and Physical Arrangements
- Benefits of Good Housekeeping Practices
- Conclusion

Definition

Industrial Hygiene is a science and art devoted to the anticipation, recognition, evaluation, prevention, and control of those environmental factors or stresses arising in or from the **workplace** which may cause sickness, impaired health and well being, or significant discomfort among workers or among citizens of the community.

DEFINITION

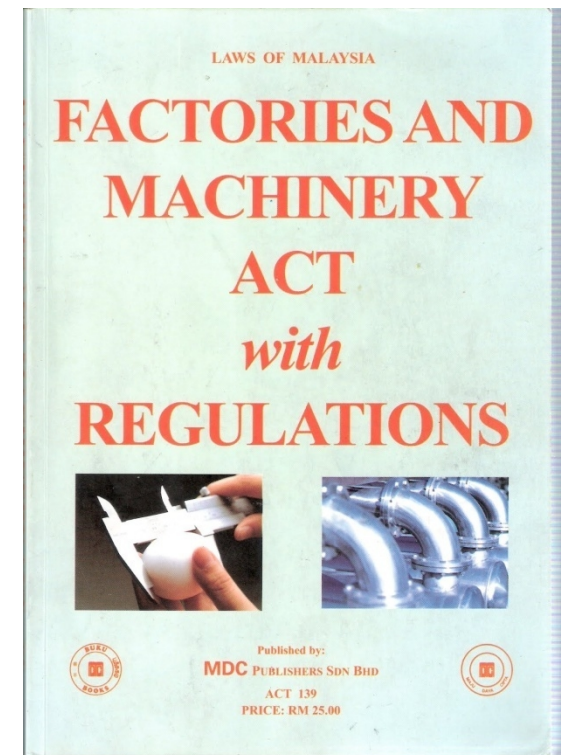
- Ensure the building, plant, equipment and machinery are properly maintained and are in good and clean conditions
- Ensure the arrangements of the plant, equipment and materials are in proper order and pose no occupational safety and health risk



STATUTORY REQUIREMENTS

Factories and Machinery (Safety, Health and Welfare) Regulations 1970 (FMA, 1970):

- Comprehensive guideline to housekeeping and physical arrangements
- Access to workplace
- Storage methods of various materials including hazardous liquids



STATUTORY REQUIREMENTS

Occupational Safety and Health Act 1994 (OSHA, 1994):

- It is the General Responsibilities of the Employer and Self- Employed (Section 15 (a) and (d)) to provide:
 - “provision and maintenance of plant and systems of work that are safe and without risk to health.....”
 - “maintenance of a workplace and provision and maintenance of the means of access to and egress from that are safe and without such risks.....”

Why should we pay attention to housekeeping at work?

- Effective housekeeping can eliminate some workplace hazards and help get a job done safely and properly.
- Poor housekeeping can frequently contribute to accidents by hiding hazards that cause injuries.
- If the sight of paper, debris, clutter and spills is accepted as normal, then other more serious health and safety hazards may be taken for granted.

Why should we pay attention to housekeeping at work?

- Housekeeping is not just cleanliness. It includes keeping work areas neat and orderly.
- Maintaining halls and floors free of slip and trip hazards.
- Removal of waste materials (e.g., paper, cardboard) and other fire hazards from work areas.
- It also requires attention on important details such as the layout of the whole workplace, aisle marking, the adequacy of storage facilities, and maintenance.
- Good housekeeping is also a basic part of accident and fire prevention.

UNSAFE CONDITIONS

Among the situations that can cause accidents or diseases:

- Slippery/greasy floors (oily, wet, dusty, dirty)
- Hand tools, materials and electric cables in walkways (may cause tripping)
- Improper physical arrangement of machinery
- Crowded work areas
- Balance or waste materials on the work floor

UNSAFE CONDITION



TYPES OF ACCIDENTS

- Falls resulting from stepping on materials/equipment
- Slips and falls – slippery floors
- Collisions with materials/machinery
- Slipping over equipment/material
- Fire incidents
- Being hit by falling objects
- Striking against projecting, poorly stacked items or misplaced material
- Cutting, puncturing, or tearing the skin of hands or other parts of the body on projecting nails, wire or steel strapping

Identify the unsafe conditions and accidents or incidents that may occur



CAUSES OF ACCIDENTS

- Equipments that are not properly kept
- Improper arrangement of machinery
- Dark working conditions
- No designated place for waste disposal
- Insufficient ventilation
- Limited space between machine and worker
- No designated areas for finished or semi-finished products

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TYPES OF DISEASES

Among diseases arising from untidy workplaces are those related to:

- Lung and skin diseases
 - Inhalation of dust/chemical vapours

- Eye diseases
 - Insufficient lighting

CAUSES OF DISEASES

- Chemical spillages that are not cleaned
(sources of inhalation, dermal absorption)
- Lack of knowledge and provision of equipment
to clean chemical spillages
- Collection of dust/vapour particles on lights
and walls that are not cleaned

PLANNING AND SCHEDULING OF HOUSEKEEPING & PHYSICAL ARRANGEMENT

Planning is dependent on:

- The variety of activities in one work area
- Whether the process generates dust, vapours or other waste materials
- Workplace environment that may contribute to unsafe conditions (dusty, untidy)
- Availability of equipment/machinery in the work area

PLANNING AND SCHEDULING

Housekeeping schedule is dependent on whether work is done:

- Daily
- Weekly
- Monthly
- Yearly
- After incident/chemical spillage (BAD → RETROSPECTIVE)

FACTORS TO PREVENT ACCIDENTS/DISEASES

Human - Workers and Employers

- Training
- Supervision
- Preparation of Standard Operating Procedures
- Proper competencies
- Suitability to job task
- Experience



FACTORS TO PREVENT ACCIDENTS/DISEASES

Machinery

- Proper arrangement of machinery
- Sufficient space in between machines
- Sufficient space around machinery
- Arrangement of machinery according to process requirements

FACTORS TO PREVENT ACCIDENTS/DISEASES

Equipment

- Facilities to store equipment
- Provision of equipment for cleaning purposes
- Provision of Personal Protective Equipment (PPE)

FACTORS TO PREVENT ACCIDENTS/DISEASES

Material (e.g. chemical substances)

- Designated area for material storage
- Proper material waste disposal facilities
- Use of correct material quantities (daily/weekly)
- Provision of proper access for materials

FACTORS TO PREVENT ACCIDENTS/DISEASES

Work Environment

- Condition of the work floor
- Condition of walls (not slippery etc. and in tact)
- Proper ventilation
- Sufficient lighting
- Waste disposal

MEASURES FOR IMPROVEMENT

- Formulate a policy for Good Housekeeping and Physical Arrangements
- Ensure early planning, even before starting operations
- Accountability on the Head of Department
- Include responsibility of housekeeping in the individual job description

MEASURES FOR IMPROVEMENT

- Provide training
- Formulate Safe Operating Procedures
- Formulate Housekeeping rules
- Conduct regular workplace inspections
- Prepare housekeeping schedule/ programme
- Supervise housekeeping activities

MEASURES FOR IMPROVEMENT

- Strategically position warning signages
- Provide sufficient facilities for material/equipment storage
- Provide proper waste disposal facilities
- Make floor markings to indicate access routes and storage areas respectively

What are some benefits of good housekeeping practices?

Effective housekeeping results in:

- Reduced handling to ease the flow of materials
- Less tripping and slipping accidents in clutter-free and spill-free work areas
- Decreased the risk of fire hazards
- Lower worker exposures to hazardous substances (e.g. dusts, vapours)
- Better control of tools and materials, including inventory and supplies
- More efficient equipment cleanup and maintenance

What are some benefits of good housekeeping practices? (CONT)

- Better hygienic conditions leading to improved health
- More effective use of space
- Reduced property damage by improving preventive maintenance
- Less janitorial work
- Improved workers' morale
- Improved productivity (tools and materials will be easy to find)

CONCLUSION

- Housekeeping and physical arrangements of the workplace is very important in the prevention of accidents and diseases
- FMA 1967 and OSHA 1994 outlines the related statutory requirements
- Other than planning and scheduling, various other factors need to be considered in the prevention of accidents and diseases
- Various measures for improvement have also been discussed

REFERENCE

- <http://www.ccohs.ca/oshanswers/hsprograms/house.html>