

COURSE n° 03 : HAZARD IDENTIFICATION & ASSESSMENT

ONE OF THE “**root causes**” of workplace injuries, illnesses, and incidents is the **failure to identify or recognize hazards** that are present, or that could have been anticipated. A critical element of any effective safety and health program is a proactive, ongoing process to identify and assess such hazards.

1. IDENTIFY AND ASSESS HAZARDS:

To identify and assess hazards, employers and workers must implement some actions:

a) **Action item 1: Collect existing information about workplace hazards**

Information on workplace hazards may already be available to employers and workers from both internal and external sources.

Internal sources	External sources
<ul style="list-style-type: none"> - Equipment and machinery operating manuals, - SDSs provided by chemical manufacturers, - Self-inspection reports and inspection reports from insurance carriers, government agencies, and consultants. - Input from workers, including surveys or minutes from safety and health committee meetings. 	<ul style="list-style-type: none"> - OSHA, National Institute for Occupational Safety and Health (NIOSH), and Centers for Disease Control and Prevention (CDC) websites, publications, and alerts. - Safety and health consultants.

b) **Action item 2: Inspect the workplace for safety hazards**

Over time, risks may arise from modifications to workstations and procedures, deterioration of tools or equipment, failure to perform maintenance, or a drop in housekeeping standards.

Setting aside time to **regularly inspect the workplace for hazards** can help identify shortcomings so that they can be addressed before an incident occurs.

❖ **How to accomplish those regular inspections:**

- Conduct regular inspections of all operations, equipment, work areas, and facilities,
- Document inspections,

- Include all areas, activities, and plant vehicles in these inspections (e.g., storage and warehousing, facility and equipment maintenance, purchasing and office functions, and forklifts, powered industrial trucks, cars, trucks),
- Use **checklists** that highlight things to look for (e.g., slip, trip, and fall hazards, electrical hazards, fire protection, ergonomic problems ...).

c) **Action item 3: Identify health hazards**

Identifying workers' exposure to health hazards is typically more complex than identifying physical safety hazards. For example, gases and vapors may be invisible, often have no odor, and may not have an immediately noticeable harmful health effect.

Health hazards include:

- **Chemical hazards** (solvents, adhesives, paints, toxic dusts, etc.),
- **Physical hazards** (noise, radiation, heat, etc.),
- **Biological hazards** (infectious diseases), and
- **Ergonomic risk factors** (heavy lifting, repetitive motions, vibration).

Reviewing **workers' medical records** can be useful in identifying health hazards associated with workplace exposures.

d) **Action item 4: Conduct incident investigations**

Workplace incidents—including injuries, illnesses, near misses, and reports of other concerns—provide a clear indication of where hazards exist. By thoroughly **investigating incidents and reports**, you will identify hazards that are likely to cause future harm. The purpose of an investigation must always be to identify the root causes of the incident or concern, to prevent future occurrences.

e) **Action item 5: Identify hazards associated with emergency and non-routine situations**

- **Emergencies** present hazards that need to be recognized and understood.
- **Non-routine or infrequent tasks**, including maintenance and startup/shutdown activities, also present potential hazards.

Plans and procedures need to be developed for responding appropriately and safely to hazards associated with foreseeable **emergency scenarios** and **non-routine situations**.

Scenarios such as the following may be foreseeable:

- Fires and explosions,
- Chemical releases,
- Hazardous material spills,
- Medical emergencies,
- Structural collapse,
- Disease outbreaks,
- Weather emergencies and natural disasters,
- Workplace violence.

f) Action item 6: Characterize the nature of identified hazards, identify interim control measures, and prioritize the hazards for control

The next step is **to assess** and **understand** the hazards identified and the types of incidents that could result from worker exposure to those hazards. This information can be used to develop interim controls and to prioritize hazards for permanent control (see “**Hazard Prevention and Control**”).

❖ **How to accomplish it**

- Evaluate each hazard by considering the **severity** of potential outcomes, the **likelihood** that an event or exposure will occur, and **the number of workers who might be exposed**.
- Use interim control measures to protect workers until more permanent solutions can be implemented.
- Prioritize the hazards so that those presenting the greatest risk are addressed first.