Section 4: Hazard Identification, Analysis and Control (Required)

WHY

Regardless of technique used, all employees should know how to report workplace safety and health hazards. Use of the reporting system should be encouraged by management. Hazards to consider include those currently in the workplace and those that may occur due to future changes (e.g., implementation of new equipment, processes or materials).

HOW to Identify and Analyze Hazards

There are several methods organizations can use to identify hazards (or a combination of methods). Some methods are less formal (e.g., walk-around inspections by first-line supervisors or safety committees); some are more formal (e.g., Process Hazard Analysis). Regardless of the methods used, the best hazard identification methods combine expert opinion about safety and health hazards with input from either a cross-disciplinary team or at least one employee who works directly with the process or equipment in question.

* **Walk-around inspections by first-line supervisors, management or safety committees.**
* Select individuals to conduct the hazard identification who are trained in hazard recognition.
* Include any checklists used for inspection, who is conducting the inspection, the time line for each review and analysis, and any controls put in place to follow through with any hazard findings. Checklists can serve as a good starting point for organizations to assist employers and employees identify workplace hazards.
* Include the information about how you analyze any collected data (e.g., in a safety committee meeting, a safety directors meeting, a company meeting).
* As you decide on action, record the decision to improve, who is responsible for corrective action, and when the corrective action has been completed.
* Inspections should be done on a regular basis to identify both newly developed hazards and those previously missed.
* Also consider the value of periodic industrial hygiene monitoring and sampling for agents such as hazardous substances, noise and heat.

*Examples of checklists can be found in the OSHA Handbook for Small Business (OSHA 2209)* OSHA Small business ([www.osha.gov/Publications/smallbusiness/small-business.html#check](http://www.osha.gov/Publications/smallbusiness/small-business.html#check)) *and A Workplace Accident and Injury Reduction (AWAIR) Program for Small Construction Employers.*

*Note: One disadvantage of using a checklist is it focuses an inspection on certain specific hazards and can cause other hazards not on the checklist to go unnoticed. This is particularly true of generic checklists that are not site- or process-specific.*

* **Job Hazard Analysis (JHA) also known as *job safety analysis*.**

Job hazard analysis is a step-by-step method of identifying the hazards associated with a particular task or job. Federal OSHA has published Job Hazard Analysis (OSHA 3071), which provides a detailed description of JHAs and includes examples and a sample form.
* Involve the employee who normally performs the job, in the development of the JHA.
* List all job steps or tasks the worker must perform to complete the job. (Watch the employee perform the operation in question, record each step of the process, review the list with the employee for completeness.
* Review each step to determine what safety and health hazards are or could be present. List the hazards.
* Determine what measures can eliminate or lessen the risk of injury or illness to the employee (e.g., engineering controls, job rotation, PPE).

This section includes items you might include on your checklists for self-inspection fact-finding. They can give you some indication of where to begin taking action to make your business safer and more healthful for all of your employees.

* These checklists are by no means all-inclusive and not all of the checklists will apply to your business.
* You might want to start by selecting the areas that are most critical to your business, then expanding your self-inspection checklists over time to fully cover all areas that pertain to your business. Remember that a checklist is a tool to help, not a definitive statement of what is mandatory. ***Use checklists only for guidance.***
* Don't spend time with items that have no application to your business. Make sure that each item is seen by you or your designee, and leave nothing to memory or chance. Write down what you see or don't see and what you think you should do about it.
* Add information from your completed checklists to injury information, employee information, and process and equipment information to build a foundation to help you determine what problems exist. Then, as you use the OSHA standards in your problem-solving process, it will be easier for you to determine the actions needed to solve these problems.

**Self-Inspections should cover safety and health issues in the following areas:**

* Processing, Receiving, Shipping and Storage: equipment, job planning, layout, heights, floor loads, projection of materials, material handling and storage methods, training for material handling equipment.
* Building and Grounds Conditions: floors, walls, ceilings, exits, stairs, walkways, ramps, platforms (any elevated surfaces), driveways, aisles.
* Housekeeping Program: waste disposal, tools, objects, materials, leakage and spillage, cleaning methods, schedules, work areas, remote areas, and storage areas.
* Electricity: equipment, switches, breakers, fuses, switch-boxes, junctions, special fixtures, circuits, insulation, extensions, tools, motors, grounding, national electric code compliance.
* Lighting: type, intensity, controls, conditions, diffusion, location, glare and shadow control.
* Heating and Ventilation: type, effectiveness, temperature, humidity, controls, natural and artificial ventilation and exhausting.
* Machinery: points of operation, flywheels, gears, shafts, pulleys, key ways, belts, couplings, sprockets, chains, frames, controls, lighting for tools and equipment, brakes, exhausting, feeding, oiling, adjusting, maintenance, lockout/tagout, grounding, work space, location, purchasing standards.
* Personnel: training, including hazard identification training; evacuation training; methods of checking machines before use; type of clothing; PPE; use of guards; lockout/tagout procedures; tool storage; work practices; methods for cleaning, oiling, or adjusting machinery.
* Hand and Power Tools: purchasing standards, inspection, storage, repair, types, maintenance, grounding, use and handling.
* Chemicals: storage, handling, transportation, spills, disposals, amounts used, labeling, toxicity or other harmful effects, warning signs, supervision, training, protective clothing and equipment, hazard communication requirements.
* Fire Prevention: extinguishers, alarms, sprinklers, smoking rules, exits, personnel assigned, separation of flammable materials and dangerous operations, explosion-proof fixtures in hazardous locations, waste disposal and training of personnel.
* Maintenance: provide regular and preventive maintenance on all equipment including ladders, hoists, and auxiliary equipment used at the worksite, recording all work performed on the machinery and by training personnel on the proper care and servicing of the equipment.
* PPE: type, size, maintenance, repair, age, storage, assignment of responsibility, purchasing methods, standards observed, training in care and use, rules of use, method of assignment.
* Transportation: motor vehicle safety, seat belts, vehicle maintenance, safe driver programs.
* First-Aid Program/Supplies: medical care facilities locations, posted emergency phone numbers, accessible first-aid kits.
* Evacuation Plan: establish and practice procedures for an emergency evacuation, e.g., fire, chemical/biological incidents, bomb threat; include escape procedures and routes, critical plant operations, employee accounting following an evacuation, rescue and medical duties and ways to report emergencies.

HOW to Control Hazards

After hazards are identified, they should be eliminated or abated to the degree that it is feasible.

* Employee input should be considered and is highly recommended.
* Conduct regular preventive maintenance of equipment to prevent occurrences of hazards: ladders, fans and belts, pressure vessels, forklifts, etc.
* Engineering controls: machine guarding, ventilation, raw material substitution.
* After all engineering control options have been exhausted, modify work practices. For example, use water to keep airborne dust levels to a minimum, replace lids on solvent degreasing tanks when not in use.
* Administrative controls: reduce employee exposure to hazardous tasks, e.g., job rotation.
* Personal Protective Equipment: After all engineering and administrative controls and work practices have been implemented, the last resort to control hazards is PPE: respirators, gloves, safety glasses, etc.
* Proper housekeeping methods can reduce hazards: reduce airborne dust levels, prevent the disturbance of asbestos-containing materials, and improve overall air quality.

**Hazard Identification, Analysis and Control Policies**

**Sample Letter 1**

This company is committed to the systems, training, and procedures necessary to prevent and control the hazards that have been identified in our workplace. These control procedures will be the basic means for preventing accidents. We follow the basic formula OSHA recommendations for hazard control as follows:

1. (Name of safety coordinator or manager) is responsible for our company job-site safety. The job site will be inspected as our company’s first involvement. Using a job survey form we will inspect for any known hazards and take steps to correct any safety violations.
2. After reviewing safety concerns, we will analyze the cause and make recommendations for corrective action.
3. If at all possible, we try to find a way to eliminate the hazard.
4. If we cannot eliminate the hazard, we try to abate it by limiting exposure or controlling it at its source.
5. If we cannot eliminate or abate, we train personnel to be aware of the hazard and to follow safe work procedures to avoid it.
6. In training employees how to follow safe procedures, we prescribe personal protective equipment for protecting employees against hazard.
7. We train employees on Safety Data Sheets (SDS) so they know how to handle hazardous substances and what to do if exposed.
8. We eliminate poor housekeeping since it is a major cause of accidents. We conduct regular cleanup campaigns in all areas of business and expect employees and management to maintain safe, clean work areas.
9. Periodically we will re-inspect area of concern and verify that safety hazards have been corrected, and make any new recommendations for safe work conditions.

Our commitment is to identify, control and prevent hazards from causing harm, and our requirement is that every employee should share this commitment to their own and each other’s safety. Following is the process and procedure to implement plan.

See following inspection checklist. (Add the inspections check list specific to your company that you created in the previous step.)

**Sample Letter 2**

This company is committed to providing all of our employees with a safe and healthy work environment. It is our intention to fully comply with the OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations and the Minnesota Employee Right-To-Know Standards for Hazardous Substances, by compiling a hazardous chemicals list, by using SDSs, by ensuring that containers are labeled, and by providing employee training.

This program applies to all work operations in our company where you may be exposed to hazardous substances under normal working conditions or during an emergency situation.

The company will review and update the program as necessary.

1. List of Hazardous Chemicals: (name of responsible person) will make a list of all hazardous chemicals and work practices used on our jobs, and will update the list as necessary.
2. Safety Data Sheets (SDS): SDSs provide you with specific information on the chemicals you use. (name of responsible person) will maintain a binder with an SDS on every substance on the list of hazardous chemicals.
3. Labels: (name of responsible person) will ensure that all hazardous chemicals are properly labeled and updated. Labels will list the chemical identity, appropriate hazard warnings, and the name and address of the manufacturer.
4. Training: Everyone who works with hazardous chemicals will receive initial training on the Hazard Communication Standard and the safe use of those hazardous chemicals by (name of responsible person). Whenever a new hazard is introduced, additional training will be provided. Regular safety meetings will also be used to review the information presented in the initial training.