No written part of the material may be reproduced in whole or in part without express permission. This information is provided for educational purposes only. This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is provided with the understanding that the author is not engaged in rendering legal, accounting, or other professional services. If legal advice or other expert assistance is required, the services of a competent professional person should be sought.
# Table of Contents

<table>
<thead>
<tr>
<th>Module 1</th>
<th>Introduction to OSHA and the OSH Act</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 2</td>
<td>Walking and Working Surfaces</td>
<td>19</td>
</tr>
<tr>
<td>Module 3</td>
<td>Emergency Action Plan</td>
<td>23</td>
</tr>
<tr>
<td>Module 4</td>
<td>Hazardous Materials</td>
<td>28</td>
</tr>
<tr>
<td>Module 5</td>
<td>Personal Protective Equipment</td>
<td>32</td>
</tr>
<tr>
<td>Module 6</td>
<td>Machine Guarding Safety</td>
<td>38</td>
</tr>
<tr>
<td>Module 7</td>
<td>Electrical Safety</td>
<td>43</td>
</tr>
<tr>
<td>Module 8</td>
<td>Hazard Communication</td>
<td>53</td>
</tr>
<tr>
<td>Module 9</td>
<td>Hazardous Substances and Industrial Hygiene</td>
<td>57</td>
</tr>
<tr>
<td>Module 10</td>
<td>Safety and Health Programs</td>
<td>62</td>
</tr>
</tbody>
</table>

## Supplements

<table>
<thead>
<tr>
<th>Handout 1</th>
<th>Weekly Fatality/Catastrophe Report</th>
<th>68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handout 2</td>
<td>OSHA 300 Log Example</td>
<td>70</td>
</tr>
<tr>
<td>Handout 3</td>
<td>OSHA Poster</td>
<td>71</td>
</tr>
<tr>
<td>Handout 4</td>
<td>Navigating the OSHA Web Site</td>
<td>72</td>
</tr>
<tr>
<td>Handout 5</td>
<td>Refusing to Work because Conditions Are Dangerous</td>
<td>73</td>
</tr>
<tr>
<td>Handout 6</td>
<td>Filing an OSHA Complaint</td>
<td>74</td>
</tr>
<tr>
<td>Handout 7</td>
<td>Your Rights as a Whistleblower Fact Sheet</td>
<td>86</td>
</tr>
<tr>
<td>Handout 8</td>
<td>Employers Must Provide and Pay for PPE</td>
<td>88</td>
</tr>
<tr>
<td>Handout 9</td>
<td>How to Read the OSHA Standards</td>
<td>90</td>
</tr>
<tr>
<td>Handout 10</td>
<td>Safety and Health Resources</td>
<td>94</td>
</tr>
</tbody>
</table>

OSHA 10-Hr General Industry Study Guide
<table>
<thead>
<tr>
<th>Handout 11</th>
<th>MSDS Example</th>
<th>95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handout 12</td>
<td>Identifying Safety and Health Problems in the Workplace</td>
<td>99</td>
</tr>
</tbody>
</table>
The Purpose and Design of the Study Guide

U.S. OSHA created the Outreach Training Program for the purpose of expanding the knowledge base of employers and employees across the country relative to their standards and guidelines, thereby enhancing safety and health in the American workplace. OSHA requires specific topics to be included in every program.

The purpose of this study guide is to provide a thorough review of the 360 training OSHA 30 Hr. General Industry Training Program. Each lesson corresponds to those in the series and contains bulleted highlights, as well as note taking sections.
Module 1:

Introduction to OSHA and the OSH Act

The purpose of this two-hour course is to provide workers with introductory information about OSHA. The module is comprised of the following six lessons:

- Why is OSHA important to you?
- What rights do you have under OSHA?
- What responsibilities does your employer have under OSHA?
- What do the OSHA standards say?
- How are OSHA inspections conducted?
- Where can you go for help?

This section provides basic knowledge of OSHA’s history and mission, worker rights under OSHA, employer responsibilities under OSHA, OSHA standards, OSHA inspections, and safety and health resources, including how to file an OSHA complaint. This part will prove beneficial for those who are directly or indirectly involved with OSHA and the OSH Act.

Key Terms

Material Safety Data Sheet (MSDS): A document that contains hazard-related information about a specific chemical or formulation.

OSHA: Occupational Safety and Health Administration

Personal Protective Equipment (PPE): All types of protective equipment such as hard hats, gloves, boots, and eye protection, along with respiratory aids.

Lesson 1:

Why Is OSHA Important to You?
Key Points

- OSHA began because, until 1970, there were no national laws for safety and health hazards.

- Since then, workplace fatalities have been cut by more than 60 percent and occupational injury and illness rates have declined 40 percent.

- State plan programs respond to accidents and employee complaints and conduct unannounced inspections just like federal OSHA.

- Some states have OSHA-approved plans that cover only state and local government workers.

- OSHA approves and monitors all state plans. The state plans must be at least as effective as federal OSHA requirements.

- Twenty-two states and territories operate complete plans and four cover only the public sector.

- Some statistics:
  - On average, 15 workers die every day from job injuries.
  - Over 5,600 Americans die from workplace injuries annually.
  - Each year, over 4 million non-fatal workplace injuries and illnesses are reported.

- The estimated cost of occupational injuries and illnesses ranges from $145 billion to $290 billion a year for direct and indirect costs. (See Handout 1)

Study Questions

1. The OSH Act is also known by what other name?
2. Which occupational groups do not come under OSHA coverage?

3. Name three actions OSHA uses to carry out its mission.

4. Which states have developed public sector state plans?

Lesson 2:

What Rights Do You Have under OSHA?

Key Points

- The right to review the injury and illness log includes former employees, their personal representatives, and authorized employee representatives. (See Handout 2)

- OSHA regulations protect workers who complain to their employer about unsafe or unhealthful conditions in the workplace. (See Handout 3)

- You cannot be transferred, denied a raise, have your hours reduced, be fired, or punished in any other way because you have exercised any right afforded to you under the OSH Act.
Since you are often closest to potential safety and health hazards, you have a vested interest in reporting problems so that the employer gets them fixed. If the hazard is not corrected, you should then contact OSHA. (See Handout 4)

The OSH Act prohibits employment retaliation against an employee who complains to an employer, files a complaint related to workplace safety or health conditions, initiates a proceeding, contests an abatement date, requests information from OSHA, or testifies under the Act. In certain circumstances, an employee may refuse to work under seriously threatening health or safety conditions. (See Handout 5)

Other required training includes lockout-tagout, bloodborne pathogens, noise, confined spaces, fall hazards in construction, personal protective equipment, and a variety of other subjects.

Under OSHA's standard 1910.1020, you have the right to examine and copy exposure and medical records, including records of workplace monitoring or measuring a toxic substance. This is important if you have been exposed to toxic substances or harmful physical agents in the workplace, as this regulation may help you detect, prevent, and treat occupational disease.

If you file a complaint, you have the right to find out OSHA's action on the complaint and request a review if an inspection is not made. (See Handout 6)

You have the right to talk to the inspector privately. You may point out hazards, describe injuries, illnesses or near misses that resulted from those hazards and describe any concern you have about a safety or health issue.

You also have the right to find out about inspection results and abatement measures, and get involved in any meetings or hearings related to the inspection. You may also object to the date set for the violation to

OSHA 10-Hr General Industry Study Guide
be corrected and be notified if the employer files a contest.

- "Good faith" means that even if an imminent danger is not found to exist, the worker had reasonable grounds to believe that it did. Since the conditions necessary to justify a work refusal are very stringent, refusing work should be an action taken as a last resort. If time permits, the condition should be reported to OSHA or the appropriate government agency.

- If you believe you have been punished for exercising your safety and health rights, you must contact OSHA within 30 days. (See Handout 7)

Study Questions

1. OSHA requires that each employer post certain materials in a prominent location at the workplace. What materials are these?

2. If an employer disagrees with the results of the OSHA inspection, he or she may submit a written objection to OSHA, called what?

3. Workers’ safety and health responsibilities include what six?

Lesson 3:

OSHA 10-Hr General Industry Study Guide
What Responsibilities Does Your Employer Have under OSHA?

Key Points

- Employers are required to determine if PPE should be used to protect their workers.
- The first and best strategy is to control the hazard at its source.
- The basic concept behind engineering controls is that, to the extent feasible, the work environment and the job itself should be designed to eliminate hazards or reduce exposure to hazards.
- If PPE is to be used, a PPE program should be implemented. This program should address the hazards present; the selection, maintenance, and use of PPE; the training of employees; and monitoring of the program to ensure its ongoing effectiveness. (See Handout 8)

Study Questions

1. Employer recordkeeping responsibilities involves not only setting up a reporting system and providing copies of logs upon request, but also posting annual summaries and what else?

2. What types of workplaces are exempt from recordkeeping requirements?
3. Which general industry workers are among those most exposed to lead?

4. OSHA also requires that employers pay for most required PPE, except for what types that may be worn off the job?

Lesson 4:

What Do the OSHA Standards Say?

Key Points

OSHA Standards are organized in the following way:

- The CFR is divided into Titles. OSHA's standards are in Title 29.
- Under each Part, such as Part 1926, major blocks of information are broken into subparts. For example, Subpart C is named General Safety and Health Provisions. Subpart C contains sections 1926.20 through 1926.35.
- All OSHA standards are available on OSHA's Web site. You can look them up by the standard number or do a search by topic. (See Handout 9)

Study Questions

1. What four categories do OSHA standards fall into?
2. OSHA issues standards for a wide variety of workplace hazards, including what seven?

Lesson 5:
How are OSHA Inspections Conducted?

Key Points

- OSHA conducts inspections without advance notice, except in rare circumstances (for example, when there is a report of an Imminent Danger). In fact, anyone who tells an employer about an OSHA inspection in advance can receive fines and a jail term.

- Referrals usually are from a government agency, such as NIOSH or a local health department. They are handled the same way as complaints.

- A follow-up is made to see if violations cited on an earlier inspection were fixed.

- Monitoring inspections are made to make sure hazards are being corrected and workers are protected whenever a long period of time is needed for a hazard to be fixed.

- The CSHO may also interview workers, take photographs or video, and monitor worker exposure to noise, air contaminants, or other substances. The CSHO will conduct all worker interviews in private, although workers may request that a union representative be present.

- Citations are sent in the mail at a later date (no later than six months after the inspection).
• The CSHO takes the findings back to the office and writes up a report. The Area Director reviews it and makes the final decision about any citations and penalties.

• OSHA may adjust a penalty downward depending on the gravity of the violation, the employer's good faith (efforts to comply with the Act), history of previous violations, and size of the business.

• Although employers and workers each have rights to disagree with (or appeal) parts of an OSHA citation, the employer has more rights than workers related to citations.

• Employers may request an informal conference with OSHA to discuss a case. They can also reach a settlement agreement with OSHA that adjusts citations and penalties in order to avoid prolonged legal disputes.

• Workers may also contest the abatement time for any violation and an employer's petition for modification of abatement (PMA), but they cannot contest citations or penalties. If you, as a worker, plan to contest an abatement time, you should provide information to support your position.

• Both workers and the employer have the right to participate in the hearing and request a further review of the judge's decision by the commission.

• If a violation or abatement date is contested by the employer, the situation does not have to be fixed until there is a final legal order; however, if only the penalty is contested, the violation must be fixed by the date in the citation.

Study Questions

1. What are the four priority categories of OSHA inspection?
2. What are four major stages of an OSHA inspection and what occurs during each?

3. In the opening conference, what does the CSHO do?

4. Citations inform the employer and employees of what four matters?

5. How are willful, serious, other-than-serious, and repeat violations defined?

Lesson 6:
Where Can You Go for Help?

Key Points

- OSHA standards such as those for hazard communication, egress, confined space and Bloodborne Pathogens require labels and signs. The employer must make sure that each sign or label posted can be understood by all workers, so the signs
must be bilingual if workers do not understand or read English.

- Orientation manuals and training materials about your job should include information about how to work safely. (See Handout 10)

- If you have questions about a new job or task, or a job or task that has changed, be sure to ask for the written procedures and for additional training on them.

- If you are discussing a health concern with your health care provider, try to provide them with as much information about the chemical or substance as possible. For example, if you are getting headaches at work, try to get the names and MSDSs or labels of the chemicals to which you are exposed. (See Handout 11)

- Remember that discrimination for health and safety activity is illegal. If you are a union representative, you may wish to have your name on the complaint. (See Handout 12)

**Study Questions**

1. OSHA considers some jobs and tasks very hazardous, such as what?

2. What are QuickCards?

3. What can a worker request if he or she is currently an employee at a workplace of concern (meaning, where workers are getting sick from an unknown cause or are exposed to an agent or working condition that is not
regulated by OSHA), if he or she has obtained the signatures of two other workers?
Module 2:

Walking and Working Surfaces

Every walking–working surface in the workplace can be potentially hazardous to workers. Hazardous surfaces include loose carpets, ramps, stairways, ladders and scaffolds, as well as slippery floors resulting from liquid or other spills. Resulting slips, trips, and falls can cause cuts and bruises, sprains and strains, broken bones, and various injuries to internal organs. They can also result in fatalities.

This part alerts participants to the hazards of walking–working surfaces and provides information about workplace action needed to eliminate or control these hazards.

Key Terms

**Floor hole:** This is an opening in the floor, platform or pavement that measures less than 12 inches, but more than 1 inch, and through which materials—but not people—may fall.

**Floor opening:** An opening in the floor, platform, or pavement measuring 12 inches or more in its least dimension through which persons may fall.

**Standard railings:** These consist of a top rail, mid rail and posts. The height from the upper surface of the top rail to the floor level is 42 inches. Mid rail height is one-half as high as the top rail (or 21 inches).

**Standard toeboard:** A standard toeboard blocks an opening along the base/floor of stairs or other walking or working surfaces where materials or body parts might otherwise inadvertently fall through. It should be 4 inches high, with not more than 1/4-inch clearance above the floor.

**Wall opening:** An opening in a wall or partition that is at least 30 inches high and 18 inches wide through which persons may fall.
Lesson 1:

Wall and Floor Openings and Holes

Key Points

- Slips, trips, and falls account for just over one-third of all recordable general industry injuries. They cause 15% of all accidental deaths in the workplace, and are second only to motor vehicles as a cause of fatalities.

- Where wet working conditions exist, provide gratings, mats, raised platforms, or other engineering controls to avoid the potential for slips.

- For floor loading protection, load ratings must be marked on plates and be conspicuously posted, and the load-rating limit must not be exceeded.

- For infrequently used stairways, where traffic across the opening prevents the use of a fixed standard railing, the guard shall consist of a hinged floor opening cover of standard strength and construction along with removable standard railings on all exposed sides, except at the stairway entrance.

- Floor openings may be covered rather than guarded with rails. When the floor opening cover is removed, a temporary guardrail shall be in place or an attendant shall be stationed at the opening to warn personnel.

- While a cover is not in place, the floor hole shall be constantly attended by someone or shall be protected by a removable standard railing.

- Employers should have Site-specific Safety Plans addressing potential hazards that could lead to injury or death.

- Every ladderway floor opening or platform shall be guarded by a standard railing with standard toeboard on all exposed sides (except at entrance to opening), with the passage through the railing either provided
with a swinging gate or so offset that a person cannot walk directly into the opening.

- Aisles must be sufficiently wide where mechanical handling equipment is used.

**Study Questions**

1. What are the three major elements of the guarding floor and wall openings and holes section?

2. Provide standard railing with a standard toeboard on the open sides wherever what three conditions are true?

3. Improper aisle widths coupled with poor housekeeping and vehicle traffic can cause what three complications?

**Lesson 2:**

**Stairs, Ladders, and Scaffolds**

**Key Points**

- Never use ladders in a horizontal position as scaffolds or work platforms.

- Always remember that fixed ladders, with a length of more than 20 feet to a maximum unbroken length of 30
feet must be equipped with cages or a ladder safety device.

- When fixed ladders are used to ascend to heights exceeding 20 feet (except on chimneys), landing platforms shall be provided for each 30 feet of height or fraction thereof.

- Repair damaged or weakened scaffolds immediately, and do not use them until repairs have been completed.

- A safe means must be provided to gain access to the working platform level through the use of a ladder, ramp, or other device.

- Overhead protection must be provided for personnel on a scaffold exposed to overhead hazards.

- Employers must ensure that no extensions or auxiliary parts are added to scaffolds unless designed and approved by a competent person.

**Study Questions**

1. When inspecting the condition of stairways in a workplace, you should inspect what in particular?

2. A non self-supporting portable ladder adjustable in length may not exceed how many feet?
Module 3:

Emergency Action Plan

Every year workers are injured or die because of nonexistent or inappropriate exit routes. Too often, inadequate emergency action plans are responsible for more casualties and fatalities than the actual emergency.

This module gives you a basic understanding of means of exit, emergency action plans, and fire protection plans. Familiarity with these plans in any workplace can save lives.

Key Terms

Exit: The portion of a route that is generally separated from other areas to provide a protected way of travel to the discharge space.

Exit access: The portion of an exit route that leads to an exit.

Exit discharge: The part of an exit route that leads directly outside or to a street, walkway, refuge area or public access way.

Exit route: A continuous and unobstructed path of exit travel from any point within a workplace to any place of safety.

High-hazard: Contents/materials that can burn rapidly, or explosions or poisonous fumes that can escalate the severity of a fire.

Lesson 1:

Exit and Its Standards

Key Points

- A means of exit refers to both horizontal and vertical ways of travel; this includes corridors, hallways, ramps,
stairs, yards, doorways, lobbies, escalators, balconies, courts, passageways, and enclosures.

- Exit routes must meet the following requirements:
  - Every exit route must be a part of the workplace.
  - Exit route must be at least 28 inches wide at all points.
  - An exit route must be designed using fire resistant materials.
  - There must be an adequate number of exit routes to accommodate the number of employees needing access to them.
  - Exit routes must be remote from each other so that if one route is inaccessible, employees can use an alternate route.
  - Depending on the size of the facility and number of employees, local fire codes may require more than two exits. (Frequently, local code is more stringent, thereby superseding OSHA.)

- The outdoor exit route must not lead to a dead-end and should have a safe path with a smooth and solid surface.

- Whenever the exit route is not clearly identified, use signs, markings, and/or symbols similar to exit signs in such a way as to provide proper directional information.

- If passages, stairways, and doors could be mistaken for exits, then these routes should be clearly marked “Not an Exit” in plain, legible letters and/or with a symbol that conveys the message to workers.

- Exit signs must be illuminated with auxiliary power so that they continue to work in case of an electrical failure.

**Study Questions**

1. The refuge area is a fire- and smoke-protected space within a building along an exit route. The refuge area
must have a fire-resistance rating of at least how much?

2. What type of door should be used in order to connect any room to an exit route?

Lesson 2:
The Plans

Key Points

• The Emergency Action Plan (EAP) must include:
  o Evacuation procedures and exit routes.
  o First-aid and rescue duty assignments.
  o Methods of reporting emergencies by any employee.
  o Procedures for employees who remain behind.
  o Procedures for an accurate accounting of all employees after an evacuation or during a “shelter-in-place” emergency.
  o Procedures for critical operation shutdown.
  o Clear identification of the person in charge of the EAP and the chain-of-command.

• If audible alarms are used to initiate the EAP, the sound must be a unique sound; one different from any other sound an employee might hear during normal operation. The sound can only mean the EAP has been initiated.

• The EAP informs all employees of the type of evacuation procedure to follow in the event of an emergency, and which exit routes will be used.
• It is the employer’s responsibility to ensure that every employee is familiar with his or her role (if any) in the Fire Prevention Plan, and that this role is reviewed.

**Study Questions**

1. When must the plan be reviewed with each employee?

2. What seven elements must be included in a Fire Protection Plan?

**Lesson 3:**

**Fire Detection and Extinguishing Systems—General**

**Key Points**

• Flame detectors are best for protecting:
  
  o Areas with high ceilings and open-spaces, such as warehouses and auditoriums.
  o Outdoor or semi-enclosed areas, where winds or draughts can prevent smoke from reaching a heat or smoke detector.
  o Areas where rapidly developing flaming fires can occur, such as petrochemical production, fuel storage areas, paint shops, and solvent areas.
  o Environments which are unsuitable for other types of detectors.

• Do not delay alarms or devices actuated by fire detectors for more than 30 seconds, unless the delay is necessary for the safety of employees.
• If the alarm or signaling device is used on a total flooding system, it must also:
  
  o Alarm before the system discharges, to give employees sufficient time to exit the space safely.
  o Be connected to an approved fire detection device that automatically activates the pre-discharge alarm before the system discharge.
  o Be addressed in an emergency action plan in accordance with each area that is protected.

• If your workplace is equipped with a fixed suppressant system, there must be at least one manual station for each protected area.

**Study Questions**

1. Typical elements and components of a “fixed extinguishing system” include what eight?

2. What two specific workplace hazards does carbon dioxide share with halon?

3. What additional workplace hazards does halon pose?
Module 4:

Hazardous Materials

Hazardous materials are considered any substance or compound that has a capability of producing adverse effects on the health and safety of humans. Every year, thousands of workers get injured or killed because of fatal chemicals or other toxic hazards. OSHA and other authorities have provided many rules and regulations to prevent hazards and perform safe operations at the workplace.

It is very important to know how we can save lives at a workplace. This part gives you a basic understanding of how to deal with hazardous materials and how we can protect ourselves from their lethal hazards to prevent injury, illness, and/or death.

Key Terms

Chemical: For the purposes of this module, an element or a compound meeting the definition of a hazardous material in 49 CFR 172.101.

Combustible: A material having a flash point above 100 degrees Fahrenheit (F).

Flammable: A material having a flash point below 100 degrees F.

Inhalation: Breathing in airborne substances that may be in the form of gases, fumes, mists, vapors, dusts, or aerosols.

NFPA: National Fire Protection Association

OSHA: Occupational Safety and Health Administration

Lesson 1:

Introduction to Hazardous Materials

OSHA 10-Hr General Industry Study Guide
**Key Points**

- Flammable materials require more care than combustible materials because they can burn at room temperature.

- It is important to remember that it is vapor and not the liquid itself that is more easily ignited.

- Flammable or combustible liquids must be stored in a closed container or tank made of metal that is vented.

- A grounding wire should always be used to ground any static charge that might exist in an employee’s body or the containers of materials being worked with.

- A material’s evaporation rate must be taken into consideration when addressing storage and disposal issues regarding hazardous materials.

**Study Questions**

1. Distinguish between the three subclasses of Class I liquids.

2. Distinguish between the two classes of combustible liquids. Which of these two classes is further subdivided?

3. Contrast the subdivisions of this further subdivided combustible.
Lesson 2: 
Handling, First Aid, Precautions, and Training

Key Points

- Suitable fire control devices, such as portable fire extinguishers, must be available at locations where flammable or combustible liquids are stored.

- The warmer a flammable liquid becomes, the greater the potential for evaporation and the generation of vapor.

- Leaking tanks or containers must be removed immediately from the storage area where practical, but in such an event, the contents must be transferred to a stable container or the entire container placed in a DOT-approved overpack.

- Used rags must be disposed of or stored in a self-closing oil rag waste can.

- The guidelines for immediate first aid are as follows:
  - Call 911 or any other local emergency number immediately for medical care.
  - Do not begin treating an accident victim until the hazardous substance has been identified and the respective authorities give approvals/signs to go near the victim; otherwise, it could be very harmful. After getting permission, you may move the victim to fresh air.
  - Remove the contaminated clothing and shoes from the victim, and place them in a clean, plastic bag.
  - Clean the victim affected by chemicals by instantly pouring cold running water on their skin and eyes for at least 15 minutes, unless the respective authorities direct you not to use water for that particular chemical.
- Try not to inhale gas, fumes, and smoke in the hazardous accident area. If possible, use an appropriate respirator while within and/or leaving the area.

- If you do not know what to do in case of an emergency or are in doubt, contact your supervisor or call 911.

**Study Questions**

1. What must you do if you discover a fire in your workplace?

2. What information is mandatory for the label of every chemical container?
Module 5:

Personal Protective Equipment

This module will provide employers and employees alike with knowledge concerning the proper selection, care, and use of personal protective equipment. They also will be informed of the requirements for compliance with OSHA requirements.

Key Terms

**Brazing:** This means joining brass to metal by filling the joint with a different, melted metal at temperatures over 840 degrees Fahrenheit.

**Contaminated:** Infected by contact or association.

**PPE:** Personal Protective Equipment

**Toxic:** Poisonous

**Ventilation:** Allow fresh air to circulate through.

**Welding:** Unite by heating, hammering, or pressing.

Lesson 1:

Introduction to PPE (Personal Protective Equipment)

Key Points

- PPE should be stored carefully and kept clean to prevent damage. Contaminated PPE that cannot be decontaminated should be disposed of properly.

- Employees are responsible to:
  - Attend all required training sessions regarding PPE.
  - Wear PPE as required.
o Clean, maintain, and care for PPE as required.
o Report potential hazards they identify to their supervisors.
o Inform the supervisors or safety managers of the need to repair or replace PPE.
o Follow ALL warnings and precautions.
o Listen and follow the directions that they may be given by their supervisors or safety managers.

Study Questions

1. The employer shall provide training to each employee using PPE. Each employee shall be trained in at least what five areas?

2. When PPE is required to protect employees, it must be provided by the employer at no cost to employees, except for specific items, such as what four?

Lesson 2:

Eye, Face, and Respiratory Protection

Key Points

- Every day an estimated 1,000 eye injuries occur in American workplaces.

- The BLS reports that nearly three out of every five workers injured were not wearing eye protection at the time of their accidents.

- Most of the particles were said to be traveling faster than hand-thrown objects when accidents occurred.

- Chemicals caused one-fifth of the injuries.
• Miscellaneous accidents were caused by objects swinging from a fixed or attached position—like tree limbs, ropes, chains, or tools pulled into an eye while a worker was using them.

• Potential eye hazards can be found in nearly every industry, but BLS reported that more than 40% of injuries occurred among craft workers, like mechanics, repairers, carpenters, and plumbers.

• Workers injured while not wearing protective eyewear most often said they believed it was not required by the situation. Even though the vast majority of employers furnished eye protection at no cost to employees, about 40% of the workers received no information on when and what kind of eyewear should be used.

• Tinted shields will be provided to protect workers’ eyes and face from infrared or radiant light burns, flying sparks, metal spatter and slag chips encountered during welding, brazing, soldering, resistance welding, bare or shielded electric arc welding and oxyacetylene welding and cutting operations.

• Tinted lenses are available in several shades or degrees of tinting, and it’s the employer’s responsibility to provide the appropriate lenses for the hazard to be encountered.

• Because many substances that are health hazards can become airborne, knowing how to protect one’s person is very important.

• It should be noted that before an employer provides any employee with a respirator to use in a workplace, the employer must have created a formal written respiratory protection program and have every employee who will wear a respirator medically evaluated by a licensed healthcare professional.

• If you find anything wrong with your respirator, do not use it. Have it repaired or replaced immediately.
• You must be able to demonstrate proper donning of the respirator to your supervisor or safety professional.

Study Questions

1. According to this study, approximately how many injured workers were wearing some form of eye protection when the accident occurred but not the correct eye protection for the job being done?

2. The BLS found that almost how many of the accidents studied resulted from flying or falling objects or sparks striking the eye?

3. If employees accidentally get something into their eyes, they must go directly to the eyewash station and flush their eyes with water for how long?

4. In general, what are four safe work practices employees should use?

5. What are the four basic methods of controlling breathing hazards and what do they include?
6. What four basic questions must be answered in choosing the proper respirator?

7. To properly inspect a respirator before using it, what six things should one look for?

Lesson 3:
Head, Hand, Face, and Foot Protection

Key Points

- Toxic liquids such as acids, caustics, and molten metal can irritate and burn the eyes and skin.

- Remember the four “P”s of hearing loss: It’s Painless, Permanent, Progressive and usually, Preventable.

- When an employer determines the “Action Level” of 85 dBs has been reached, they must create a formal written hearing conservation program.

- If your foam earplugs become soiled, torn, or stiff or if your PVC earplugs become torn or brittle, discard them and ask your supervisor or safety manager for a new pair.

- Always inspect your earmuffs for cracks around the foam cups. If your earmuffs are damaged, have them repaired immediately or request a new pair.
• Poorly maintained machinery, tools, sloppy work areas, and cluttered aisles all contribute to hand injuries.

Study Questions

1. Repetitive motion problems often appear as a numb or tingling sensation accompanied by what else?

2. What are the instructions for the removal of contaminated gloves? Hint: There are seven steps.
Module 6:

Machine Guarding Safety

There seem to be as many hazards created by moving machine parts as there are types of machines. Safeguards are essential for protecting workers from needless and preventable injuries. Any machine part, function, or process that may cause injury must be safeguarded. When the operation of a machine or accidental contact with it can injure the operator or others in the vicinity, the hazard must be controlled or eliminated.

This section will help instruct workers to protect themselves from moving machinery. After completion of this part, workers will be able to properly apply the OSHA Machine and Machine Guarding requirements to their day-to-day work activities.

Key Terms

Dadoing: To cut a groove or rectangular section for receiving the end of a board.

Grooving: This is the process of creating a long, narrow cut or indentation in a surface such as a cut in a board to receive another board (tongue-and-groove joint).

Jointer: Any tool used to prepare, make, or simulate joints, such as a plane for smoothing surfaces prior to joining them.

Mortising: The process of creating a notch, hole, groove, or slot in a piece of wood or the like, to receive a tenon of the same dimensions.

Nip points: Hazardous spots where loose clothing or body parts could be caught and squeezed in rotating parts.

Nonkickback fingers or dogs: An anti-kickback device used to hold material being cut in place on circular table saws.
Point of operation: The point where the movement of a machine meets the work to be done, such as cutting, grinding, shaping, etc.

Rabbeting: Forming a deep notch in or near one edge of a board, framing timber, etc. so that something else can be fitted into it.

Reciprocating motion: Back-and-forth or up-and-down motion.

Tenoning: This is the process of creating a projection at the end of a piece of wood or the like, used for insertion into a mortise of the same dimensions.

Treadle: A lever or the like worked by continual action of the foot to impart motion to a machine.

Lesson 1:

Introduction to Machines and Machine Guarding

Key Points

- Rotating motion can be dangerous; even smooth, slowly rotating shafts can grip clothing, and even the slightest skin contact can force an arm or hand into a dangerous position.

- A good safeguarding system eliminates the possibility of the operator or other workers placing parts of their bodies near hazardous moving parts.

- Workers should not be able to easily remove or tamper with the safeguard, because a safeguard that can easily be removed or made ineffective is not one at all.

- A small tool that is dropped into a cycling machine could easily become a projectile that could strike and injure someone.
A safeguard defeats its own purpose if it creates a hazard of its own, such as a shear point, a jagged edge, or an unfinished surface which can cause a laceration.

Proper safeguarding can actually enhance efficiency since it can relieve the worker’s apprehensions about injury.

If possible, one should be able to lubricate the machine without removing the safeguards.

Safety training is necessary for new operators and maintenance or setup personnel when any new or altered safeguards are put into service or when workers are assigned to a new machine or operation.

Study Questions

1. What are the three basic areas that need safeguarding from dangerous moving parts?

2. Thorough operator training should involve instruction or hands-on training in what five points?

Lesson 2:

OSHA Requirements

Key Points

In operations where power failures are a possibility, provisions shall be made to prevent machines from automatically starting upon restoration of power. This
will reduce the incidence of injury from motors restarting unexpectedly. If a machine was not manufactured with a restart switch, one can be added on “inline,” requiring it to be reset upon restoration of power.

- All woodworking machinery such as table saws, swing saws, radial arm saws, band saws, jointers, tenoning machines, boring and mortising machines, shapers, planers, lathes, sanders, veneer cutters, and other miscellaneous woodworking machinery must be effectively guarded to protect operators and other employees from hazards inherent to their operation.

- The sides of a radial saw blade’s lower exposed portion shall be guarded to the full diameter of the blade by a device that will automatically adjust itself to the thickness of the stock and remain in contact with the stock being cut.

- Radial arm saws used for ripping shall have non-kickback fingers or dogs.

- Installation shall be completed so that the front end of the unit will be slightly higher than the rear. This will cause the cutting head to return gently to the starting position when released.

- Feed rolls and blades of self-feed circular saws shall be protected by a hood or guard to prevent the hand of the operator from coming into contact with the in-running rolls at any point.

- Each swing or sliding cut-off saw shall be provided with an effective device to return the saw automatically to the back of the table when released at any point of travel.

- Inverted sawing or swing cut-off saws shall be provided with a hood that covers the part of the saw protruding above the top of the table or material being cut.
- A substantial guard should be placed over the treadle on foot-operated presses.

- Machines using full revolution clutches must all incorporate a single stroke mechanism.

- All pulleys, belts, sprockets and chains, flywheels, shafting and shaft projections, gears, and couplings, or other rotating or reciprocating parts, or any portion thereof within seven feet of the floor or working platform shall be effectively guarded.

**Study Questions**

1. When the periphery of the blades of a fan is less than seven feet above the floor or working level, the blades should be guarded with a guard having openings no larger than how much?

2. All point-of-operation injuries must be reported to OSHA or the state agency within how many days?

3. The guard shall extend at least how many inches above the belt where both runs of horizontal belts are seven feet or less from the floor or working surface?
Module 7:

Electrical Safety

Every year tens of thousands of people are injured or killed from electrical shocks/contacts in the United States. Employees are exposed to dangers such as electric shock, electrocution, burns, fires and explosions. It is essential to understand how electricity is potentially lethal for us and how we can save lives. This part gives a basic understanding of how to prevent or eliminate work-related injuries.

Key Terms

**AWG**: American wire gauge (AWG)

**Amps**: The volume or intensity of the electrical flow

**Circuit**: Complete path of the current; it includes electricity source, a conductor, and the output device or load (such as a lamp, tool, or heater).

**Conductors**: Substances, like metals, with little resistance to electricity, thus allowing electricity to flow

**Current**: Electrical movement (measured in amps)

**Electric shock**: When a body becomes a part of the circuit

**GFCI**: Ground-Fault Circuit Interrupter; a device that will interrupt the flow of electricity when it senses a loss of proper grounding or very small electrical leaks, reducing the likelihood of injury or death.

**Grounding**: A conductive connection to the earth (at zero volts) that acts as a protective measure.

**Insulators**: Substances with high resistance to electricity—like glass, porcelain, plastic, and dry wood—that prevent electricity from getting to unwanted areas

**Resistance**: Restriction to electrical flow

OSHA 10-Hr General Industry Study Guide
Volts: Unit of measurement for electrical force

Wire gauge: Device that measures wires ranging in size from number 36 to 0.

Lesson 1:

Electricity, Hazards and Safety, and Tools and Equipment

Key Points

- Electricity is considered one of the most serious workplace hazards; it exposes employees to electric shock, burn, electrocution, fires, and explosion.
- In severe shock, breathing becomes difficult—a sign of possible respiratory arrest—and the heart stops pumping.
- Remember that low voltage does not mean low hazard.
- Pure water is a poor conductor, but small amounts of impurities, like salt and acid (both in perspiration), make it a ready conductor.
- Burns are the most common type of shock-related injuries. They occur when your body touches a live wire or electric current.
- Electric shocks can also be responsible for indirect injuries such as falls.
- Consider the following points for safe use of tools:
  - Inspect tools before use.
  - Use the correct tool for the job and use it properly.
  - Store tools in a safe manner.
  - Use double insulated tools.
  - Use tools and equipment according to the instructions provided by the manufacturer.
o Visually inspect all electrical equipment before use. Remove from service any equipment with frayed cords, missing ground prongs, cracked tool casings, etc.
o Apply a warning tag to any defective tool and do not use it until the problem has been corrected.

- Do not suspend temporary lights by cords unless they are designed to do so.
- Tagging should identify the worker and the equipment or circuits being worked on.
- Extensions cords may only be used in a properly grounded outlet.
- Hard hats are required when performing electrical work. An ANSI specification “Class B” Electrical Utility type hard hat protects against falling objects and high-voltage shocks and burns.

**Study Questions**

1. Safety-related work practices include what three?

2. Electrical shocks, fires, or falls result from specific hazards, name five.

3. What are five major causes of electrical accidents?

4. Burns caused by electrical incidents can be classified into three types: name and describe them.
5. Overload circuits can be very dangerous when any of what three conditions is true?

6. If a ground fault is detected, how quickly does GFCI shut off electricity?

7. To properly ground tools and equipment you must consider what elements?

8. A typical industrial extension cord grounding system has what four components?

9. Two kinds of grounds are required by the standard. Name and discuss them.
Lesson 2:
Lines and Wires, First Aid, and Training

Key Points

- In case of contact between power lines and equipment, remember the following guidelines:
  - Never touch equipment and the ground at the same time. Touching anything in contact with the ground could be lethal.
  - Immediately warn everyone not to touch the equipment or its load.
  - Ask someone to call 911 or a local electricity utility for help. Give complete details of the incident to the utility so that they can check wires that could fall later.

- Essential points for the safe use of cords and wires follow.
  - Use only insulated wires.
  - Check before use.
  - Use only cords that are 3-wire type.
  - Use only cords rated for the anticipated usage.
  - Use only cords, connection devices, and fittings connected to circuits equipped with fuses or breakers.
  - Remove cords from receptacles by pulling on the plugs, not the cords.
  - Cords not rated for the anticipated load, or which have been modified, must be taken out of service immediately.

- Always consider the following points when using electrical wires.
  - Use and test GFCIs when necessary.
  - Check switches and insulation.
  - Use three prong plugs.
o Use extension cords only when necessary and ensure that they are in acceptable condition and rated for the job to be done.
o Use correct connectors.

- An electrical hazard exists when wire is too small a gauge for the current it will carry.

- If a worker’s clothing should catch fire and an extinguisher is not available, wrap or smother the victim with blankets or towels. Water may be used if there is no danger of exposure to electrical hazards.

Study Questions

1. To minimize the risk of accidents, remember what four guidelines?

2. In case of contact between power lines and equipment, what three three-word phrases can remind a person of what steps to take to help save lives?

3. Flexible cords must not be used in what four specific ways?

Lesson 3:

Introduction to NFPA 70E

Key Points

OSHA 10-Hr General Industry Study Guide
- This standard addresses electrical safety requirements for employee workplaces (including jobsites) that are necessary for the practical safeguarding of employees during activities such as the installation, operation, maintenance, and demolition of electric equipment, etc.

- Even though OSHA does not mandate compliance with NFPA 70E itself, it considers NFPA 70E to be an effective how-to manual for OSHA regulation compliance.

- An employer and others may be cited by OSHA against the requirements of NFPA 70E.

- In lieu of detailed specifications, OSHA recognizes, and in some cases refers to, industry consensus standards such as NFPA 70E as a tool for assisting with regulatory compliance.

**Study Questions**

1. How is incident energy defined?

2. Incident energy is usually measured in what type of units?

**Lesson 4:**

**Electrical Safety Program**

**Key Points**

OSHA 10-Hr General Industry Study Guide
The electrical safety program must contain hazard or risk evaluation procedures that should be used before any work is started on or near live parts (limited approach boundary) operating at 50 volts or more.

In addition, the electrical safety program should require that job briefings be held for those workers involved prior to working on or near live parts operating at 50 volts or more.

Parts that could become energized must be put into an electrically safe work condition before any employee is permitted to work on or near them—this constitutes a limited approach boundary.

In general, if a part or circuit operating at 50 volts or more cannot be put into an electrically safe work condition, an electrical hazard analysis must be performed to determine the electrical hazards that do exist and what must be done to protect the employee from these hazards.

An electric shock from as little as 50VAC for as little as 1 sec can disrupt the heart's rhythm, causing death in a matter of minutes.

**Study Questions**

1. The two types of electrical hazard analysis that must be performed if energized parts operating at 50 volts or more cannot be put into an electrically safe work condition are?

2. Name and describe the five levels of electric shock.
3. A shock hazard analysis must determine what three factors?

4. What happens in an arc flash incident?

5. An arc flash can only occur if an arc between what occurs?

Lesson 5:

Energized Electrical Work Permit

Key Points

- Replacement of defective parts is recommended. Taping over damaged leads is not considered a safe repair.
- Integrity must be maintained in meter test leads and probe insulation.
- Flexible cords may not be fastened in place with staples or hung in a way that could damage the outer insulation jacket.
- Flexible cords that are used with equipment that requires grounding must be equipped with an equipment grounding conductor.
- Adapters that serve to interrupt the continuity of the equipment grounding conductor must not be used.
• Running or operating equipment should be stopped before opening disconnecting devices to avoid arcing within the device, especially on large loads that demonstrate relatively high current flow levels.

• If the disconnecting means is a draw-out type circuit breaker, NFPA 70E says that you should visibly verify that the circuit breaker is properly withdrawn to its fully disconnected position.

• Once all disconnecting devices have been opened or withdrawn and verified, it is now time to apply an approved lockout/tagout device according to a documented and established policy.

• Remember that just because an electrical supply has been presumably opened and locked and/or tagged out, the circuit or equipment must still be considered as energized (and all required PPE used) until a test has been made using an adequately rated voltage meter to verify the absence of voltage.

**Study Questions**

1. What are the procedures for testing a circuit for the absence of voltage?

2. In what cases, should grounding straps be connected from the conductor to an effective grounding point?
Module 8:

Hazard Communication

The Hazard Communication Standard (HCS) provides information to workers and employers about various chemical hazards that exist in the workplace, and what protective measures they can take in order to prevent the adverse effects of such hazards.

This part gives you a basic understanding of how to deal with hazardous chemicals and how workers can prevent and protect themselves from chemical hazards.

Key Terms

Chemical: An element or a compound produced by chemical reactions on a large scale for direct industrial and consumer use or for reaction with other chemicals.

HazCom: Hazard Communication Standard

MSDS: Material Safety Data Sheet, a document containing the chemical hazard and safe handling information pertaining to a specific chemical or compound and which is prepared in accordance with the OSHA Hazard Communication Standard.

Training: A course of study in which employees are trained to identify and work safely with hazardous materials.

Lesson 1:

Introduction to the Hazard Communication Standard

Key Points

- Implementation of HCS for all those companies who import, produce, distribute or use hazardous chemicals in the United States is mandatory.

OSHA 10-Hr General Industry Study Guide
• Combustible liquids are those that have a flashpoint at or above 100 °F (37.8 °C).

• Immediate use means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

• Unstable (reactive) means a chemical that in its pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or become self-reactive under conditions of shocks, pressure, or temperature.

Study Questions

1. When you inhale a toxic chemical, the dose you receive depends on what four factors?

2. Water-reactive means a chemical that reacts with water to release a gas that is one of what two characteristics?

Lesson 2:

Labels, MSDSs, Symbols, Hazards, and Training

Key Points

• The following information must be included on all labels:
- Complete chemical name or names, no abbreviations; formula may be used as an option.
- A warning statement (symbol or message) conveying hazardous substances contained.
- The manufacturer's name, address, and contact information.

- The following colors are used on a voluntary label to represent different types of hazards:
  - Blue is used to show the chemical contains some degree of health hazard.
  - Red shows that the chemical may be flammable.
  - Yellow represents that there may be some reactivity characteristic in the material.
  - The white field is used to display any other special symbols such as to indicate the material is an oxidizing agent or is water reactive.

- Although it can also be stored electronically, an MSDS must always be immediately available for review for all affected employees.

- Remember, it is the employer’s responsibility to ensure that each employee who handles or uses any hazardous material knows where MSDSs are located and how to read and understand them.

- Gases are used in various manufacturing processes. Because these gases are bottled under great pressure, misuse or unsafe handling could lead to an accident.

- Employers are responsible for informing and training their employees about the hazards that exist in their workplaces.

**Study Questions**

1. In general, what two terms are used in order to understand the nature of health hazards?
2. What are three manifestation examples of chronic effects?

3. What three symbols are used to identify various kinds of health hazards?

4. Health hazards can affect a body through what four routes of entry?
Module 9:

Hazardous Substances and Industrial Hygiene

This section introduces the contents of 29 CFR 1910 Subpart Z, which deals with toxic and hazardous substances.

This part focuses on the aspects of Subpart Z, which deal with keeping hazardous chemicals and materials from negatively affecting your health. This includes the use of personal protective equipment, decontamination procedures in the event of exposure to hazardous materials, and the procedures in place for conducting first aid and recording an incident of exposure in the workplace.

Key Terms

**Latency:** The time between exposure and the first appearance of an effect.

**Local effect:** Substance causes damage when and where it comes into contact with a body.

**Odor threshold:** The lowest concentration of a substance in air that can be smelled. For a given chemical, different people usually have very different odor thresholds.

**Olfactory fatigue:** The rapid loss of the ability to smell due to a substance with a strong odor.

**Permissible Exposure Limits (PELs):** Limits that are established by OSHA to control the permissible levels of exposure to a substance. Exposure limits are usually expressed in terms of a maximum concentration of a substance in the air in relation to a period of time of exposure.

**Potentiation:** The existence of one chemical may not lead to any harmful effects, but the existence of a second chemical can enhance its potential to harm the individual.
Synergism: The interaction of two or more chemicals leading to an effect that is greater than the sum of their individual effects.

Systematic effect: Substance is absorbed by the body and enters the bloodstream, eventually causing damage to internal organs.

Lesson 1:

Exposure to Toxic Substances

Key Points

- For a toxic substance, inhalation is the most common form of exposure to the body. Inhaled materials can be deposited in the lungs and can have numerous harmful effects on the body.

- If the inhaled substance is an irritant, it may lead to nose and throat irritation, or may also cause coughing and chest pains if it comes in contact with the bronchi.

- Some substances are caustic; they can chemically burn the skin.

- If the skin is cracked or cut, substances can be absorbed and passed into the bloodstream more easily.

- In some cases the substance in contact with the eye may be absorbed into the bloodstream.

- As a general rule, if you can smell a substance, then you are inhaling it. However, many substances are odorless, so odor cannot be used as a steadfast criterion in determining whether or not a chemical is being inhaled.

- An individual should not depend on smell alone to provide sufficient warning as to whether they have been exposed to a chemical. One individual's sense of
smell will differ from another's; what one person may be able to smell, another may not.

- If coworkers in your work area begin showing symptoms known to be from exposure to a toxic substance, then it is likely that you have been exposed yourself.

- If you find any dust which has settled on clothes or in your general surroundings, it is also likely that you have inhaled it.

- An employer has the responsibility to inform, and employees have the right to be informed, of any hazardous substances that they may be exposed to in the workplace, as well as the damage their bodies may suffer as a consequence of that exposure.

**Study Questions**

1. If you are exposed to a chemical that emits a strong odor for a long period of time, it is likely that your nose will simply “shut-down,” which effectively reduces your ability to smell that particular odor. This is known as what?

2. Employers are required to inform employees of the hazards of the chemicals they use and how to protect themselves in the workplace through the use of what?

3. The Material Safety Data Sheet (MSDS) also provides the exposure to material an individual may experience without suffering any permanent damage; this time period is known as what?
Lesson 2:
The Effects of Toxic Substances on the Body and How to Reduce Exposure

Key Points

- As a general rule, any chemicals that lead to health complication in a pregnant woman are likely to have the potential to damage the fetus.

- In the case of males, some chemicals can reduce sperm count, cause infertility, sterility, and a reduction in sex drive.

- The individual chemicals in a reaction may be harmless to the individual, but when they come into contact with one or more chemicals, the result may be toxic.

- The interaction of more than one chemical may lead to synergism. That is, the interaction of two or more chemicals will lead to an effect that is greater than the sum of their individual effects.

- Some individuals can and will tend to be more sensitive to the toxic effects of a substance than others. As a result, they will be susceptible to the toxic effects of a substance at lower levels of exposure.

- In some cases the use of creams to coat the face and skin may be used to reduce exposure, particularly where the nature of the work prevents the use of gloves or facemasks.

- Chronic exposure to a toxic substance can usually be observed only after the individual has been exposed to
it for a period usually measured in years, or sometimes in decades.

- Heavy physical work will lead workers to breathe in more air at a greater frequency, meaning that they may inhale more of a substance than is usual.

- Exposure limits do not take into account the possible interactions of two or more chemicals or the possibility of exposure through the skin or ingestion.

- When the existence of certain toxic substances in the air rises above a certain level, by law biological sampling is required. Biological sampling is carried out by way of stool, blood, and urine tests.

**Study Questions**

1. When and where a toxic substance comes in contact with and causes damage to the body is known as what?

2. In the case of what type of effect is the substance absorbed by the body and the bloodstream?

3. What is meant by potentiation?
Module 10:

Safety and Health Programs

Have you ever been injured on the job? Do you know what steps to take in the event of sickness, injury, or death solely due to your workplace environment? More importantly, do you know how to protect yourself, as well as others, and help promote healthy working conditions? Every year, more than 50,000 workers die from exposure to various hazards in the workplace. The Occupational Safety and Health Administration (OSHA) is committed to saving lives, preventing injuries, and protecting the health of workers all across America. This part will show you how to identify workplace hazards and become involved with ensuring healthy and safe working environments.

Key Terms

SHARP: Safety and Health Achievement Recognition Program

VPP: Voluntary Protection Program

Lesson 1:

Effective Safety and Health Program Elements

Key Points

- Management commitment provides the motivating force and resources for organizing and controlling activities within an organization.

- Employee involvement provides the means through which workers develop and express their own commitment to safety and health protection.

- Recommended actions:
  - Clearly state a worksite safety and health policy.
o Establish and communicate a clear goal and objective for the safety and health program.

o Provide visible top management involvement when implementing the program.

o Encourage employee involvement in the program and in decisions that affect safety and health.

o Assign and communicate responsibility for all aspects of the program.

o Provide adequate authority and resources to responsible parties.

o Hold managers, supervisors, and employees accountable for meeting their responsibilities.

o Review program operations at least annually to evaluate, identify deficiencies, and revise as needed.

• Effective management actively analyzes the work and the worksite to anticipate and prevent harmful occurrences.

• Recommended actions:
  o Provide for regular site safety and health inspections.
  o Involve the facility’s Safety Committee in periodic, but regular, site inspections.
  o Provide a reliable system for employees, without fear of reprisal, to notify management about apparent hazardous conditions and to receive timely and appropriate responses.
  o Provide for investigation of accidents and “near miss” incidents, so that their causes and means for prevention are identified.
  o Analyze injury and illness trends over time, so that patterns with common causes can be identified and addressed with an eye towards prevention.

• Where elimination of the hazard is not feasible, control hazards to prevent unsafe and unhealthful exposure.

  o Provide for facility and equipment maintenance.
  o Plan and prepare for emergencies by conducting training and drills, not less than annually.
Establish a medical program consisting of first aid on site and the structure to access nearby physician and emergency medical care.

**Study Questions**

1. It has been found that effective management of worker safety and health programs has what three benefits?

2. An effective safety and health program does what two things?

3. An effective occupational safety and health program will include what four elements?

4. In addition to the points given, what should be done in order to identify all of the safety and health hazards?

5. Establish procedures for timely prevention, correction, or control of hazards, including what three, in addition to the points given?

6. Ensure that supervisors carry out their safety and health responsibilities, including what three?
Lesson 2:

OSHA Safety and Health Programs

Key Points

- States and territories with their own OSHA-approved occupational safety and health plans must adopt and enforce standards identical to, or at least as effective as, the federal standards, and provide extensive programs of voluntary compliance and technical assistance, including consultation services.

- There is a Federal Education Center in each of the 10 Federal Regions.

- OSHA awards grants to nonprofit organizations through its Susan Harwood Training Grant Program in order to provide safety and health training and education to employers and employees in the workplace.

- Grants are awarded for one year, and may be renewed for an additional 12 to 24 month period, depending on whether or not the grantee has performed satisfactorily.

Study Questions

1. OSHA’s Strategic Partnerships are voluntary, cooperative relationships between OSHA, employers, employee representatives, and others, namely who?
2. Grants focus on programs that will educate workers and employers in small business, meaning those with fewer than how many employees?
Supplements
Weekly Fatality/Catastrophe Report

This table contains the weekly summaries of fatalities and catastrophes resulting in the hospitalization of three or more workers. Employers must report these incidents to OSHA within eight hours. The summaries below include only preliminary information, as reported to OSHA Area Offices or to States which operate OSHA-approved State Plans. The fatalities listed here include only those that initially appear to be work-related, but excludes fatalities that do not appear to be work-related, such as an apparent heart attack of a sedentary worker. OSHA investigates all work-related fatalities and catastrophes. After OSHA’s investigation is complete, these reports will be updated with inspection results and citation information.

### Weekly Summary (Federal and State data tabulated week ending Dec 25, 2009)

#### FATALITIES

<table>
<thead>
<tr>
<th>Date of Incident</th>
<th>Company and Location</th>
<th>Preliminary Description of Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/17/2009</td>
<td>Mannion &amp; Associates, Inc., Brandenburg, KY 40108</td>
<td>Two workers were doing road surveying each on either side of the road. A civilian driver came over the hill and suddenly applied his brakes, even though no person, equipment, or car was in the road. This caused his car to spin off the road, running over one of the workers.</td>
</tr>
<tr>
<td>12/17/2009</td>
<td>TBM, Inc., Visalia, CA 93277</td>
<td>Worker fell from a ladder while working inside an airplane.</td>
</tr>
<tr>
<td>12/18/2009</td>
<td>Pro-Tech Contracting of Georgia LLC, Lawrenceville, GA</td>
<td>Worker was securing tarp on a roof (not wearing fall protection, although it was available) and fell 35 feet to lower level.</td>
</tr>
<tr>
<td>12/19/2009</td>
<td>Suncombe Compost Company, LLC, Petaluma, CA 94952</td>
<td>Worker was on ground when he was run over by a front loader.</td>
</tr>
<tr>
<td>12/19/2009</td>
<td>Auto Zone Store, Oakland, CA 94603</td>
<td>Security guard worker was shot three times during robbery. The assailants took his weapon.</td>
</tr>
<tr>
<td>12/20/2009</td>
<td>Gatesco, Newbury Park, CA 91360</td>
<td>Worker, who is the owner, was doing electrical work and fell through the skylight. (No inspection planned)</td>
</tr>
<tr>
<td>12/20/2009</td>
<td>Premier Asphalt and Masonry, Inc., Coram, NY 11727</td>
<td>Worker was found in vehicle with engine running; carbon monoxide over exposure.</td>
</tr>
<tr>
<td>12/21/2009</td>
<td>County of Los Angeles - Office of Education, Downey, CA 90242</td>
<td>Worker was found unconscious in her cubicle by a janitor. (Inspection planned)</td>
</tr>
<tr>
<td>12/21/2009</td>
<td>Country Club Auto Repair, Inc., Lake Charles, LA 70605</td>
<td>Worker was repairing a roof insulation and fell 14 feet to the ground.</td>
</tr>
<tr>
<td>12/21/2009</td>
<td>Estes Express Lines, Groton, MA 06340</td>
<td>Worker was crushed between the forklift he was operating and a concrete sidewalk next to the loading dock door after stepped off the forklift</td>
</tr>
<tr>
<td>12/21/2009</td>
<td>Kervelm, Inc. dba KE Beal Company, Cape Coral, FL 33919</td>
<td>Worker was part of a four men tree trimming crew and was in the process of cutting down a 25-foot palm tree. Worker walked into the path of the falling tree and was struck by the tree.</td>
</tr>
<tr>
<td>12/22/2009</td>
<td>3 ML Construction Company, Inc., Methuen, MA</td>
<td>Worker was installing shingles and moving planks on a roof and fell 20’ 6” from the roof to a driveway below.</td>
</tr>
</tbody>
</table>
## Weekly Fatality/Catastrophe Report

### Weekly Summary (Federal and State data tabulated week ending Dec 25, 2009)

<table>
<thead>
<tr>
<th>Date of Incident</th>
<th>Company and Location</th>
<th>Preliminary Description of Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/22/2009</td>
<td>ANF Engineering, Inc. Redwood City, CA 94061</td>
<td>Worker was cleaning up on side of the road and was run over by a dump truck backing up.</td>
</tr>
<tr>
<td>12/22/2009</td>
<td>South Dakota Wheat Growers Association, McLaughlin, SD 57642</td>
<td>Worker entered a storage bin through a back side access hole that was 15 feet above ground and was engulfed by sunflower seeds.</td>
</tr>
<tr>
<td>12/23/2009</td>
<td>Golden Empire Concrete Products, Inc., Bakersfield, CA 93311</td>
<td>Worker, a Quality Control Manager, was found lying face down. (Inspection planned)</td>
</tr>
<tr>
<td>12/23/2009</td>
<td>I.G. Express Electric, New Braunfels, TX 78130</td>
<td>Worker was being elevated from a track box on a forklift to reach a light pole. The track box and worker fell to the parking lot.</td>
</tr>
<tr>
<td>12/23/2009</td>
<td>Storage Battery Systems, Inc., Alto, IL 60803</td>
<td>Worker was working beneath an elevated hydraulic platform and the platform failed, crushing the worker.</td>
</tr>
<tr>
<td>12/23/2009</td>
<td>Walls Contractors, Inc., Newport, AR 72112</td>
<td>Worker was preparing drywall to be painted and found a coil of wire hanging from the ceiling. He attempted to throw the coil over a beam in the ceiling. The coil of wire struck the beam and fell back down. The wires contacted the worker and he was electrocuted.</td>
</tr>
<tr>
<td>12/25/2009</td>
<td>Stark Excavation, Inc., Normal, IL 61760</td>
<td>Worker was operating a track hoe to remove columns lodged against a building. The columns were rigged with a nylon strap and were attached to the track hoe. While hoisting the façade from the building, the strap broke and the concrete facade fell on the cab of the track hoe, fatally injuring the worker.</td>
</tr>
<tr>
<td>12/26/2009</td>
<td>Tomcat Drilling, LLC, Amite, OK 73718</td>
<td>Worker on a derrick board fell with the collapsing mast. The derrick board broke loose from the mast and the worker was thrown against a metal structure on the ground.</td>
</tr>
</tbody>
</table>

### CATASTROPHES - MULTIPLE WORKERS HOSPITALIZED (None Reported)

**NOTES:**

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
### Log of Work-Related Injuries and Illnesses

<table>
<thead>
<tr>
<th>Case</th>
<th>Employee Name</th>
<th>Job Title</th>
<th>Date of Occurrence</th>
<th>Job Function</th>
<th>Activity</th>
<th>Injured Part</th>
<th>Description of Injury/Description of Illness</th>
<th>Responsible Party</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tommy Mantle</td>
<td>Chemist</td>
<td>06/01/2023</td>
<td>Lab</td>
<td>Lab</td>
<td>Hand</td>
<td>Sprain hand on right wrist</td>
<td>Maintenance Dept.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jim Jones</td>
<td>Machine Operator</td>
<td>06/02/2023</td>
<td>Production</td>
<td>Maintenance Dept</td>
<td>Right  Arm</td>
<td>Sprain on left arm</td>
<td>Maintenance Dept</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sarah Smith</td>
<td>Cleaner</td>
<td>06/03/2023</td>
<td>Cleaning</td>
<td>Janitor's Area</td>
<td>Right Foot</td>
<td>Sprain on right foot</td>
<td>Maintenance Dept</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Lisa Lopez</td>
<td>Janitor</td>
<td>06/04/2023</td>
<td>Building</td>
<td>Building Area</td>
<td>Right Knee</td>
<td>Sprain on right knee</td>
<td>Maintenance Dept</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Robert Garcia</td>
<td>Engineer</td>
<td>06/05/2023</td>
<td>Design</td>
<td>Design Dept</td>
<td>Right Hand</td>
<td>Sprain on right hand</td>
<td>Maintenance Dept</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Emily Davis</td>
<td>Secretary</td>
<td>06/06/2023</td>
<td>Administration</td>
<td>Office Area</td>
<td>Right Wrist</td>
<td>Sprain on right wrist</td>
<td>Maintenance Dept</td>
<td></td>
</tr>
</tbody>
</table>

### Notes
- Be sure to transfer these data to the Summary page (Form 300A) before you finish it.
- Use this form to record workplace injuries and illnesses.
- Attach an additional page if necessary.

**OSHA's Form 300 (Rev. 01/2004)**

U.S. Department of Labor
Occupational Safety and Health Administration

OSHA 10-Hr General Industry Study Guide
**Job Safety and Health**

**It's the law!**

**EMPLOYEES:**
- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthy conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the OSH Act.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violation.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the OSH Act that apply to your own actions and conduct on the job.

**EMPLOYERS:**
- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the OSH Act.

This free poster available from OSHA — The Best Resource for Safety and Health

Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA
www.osha.gov

OSHA 200-14-97
Navigating the OSHA Website

http://www.osha.gov

The elements of this valuable source of occupational safety and health information are featured:
Refusing to Work because Conditions are Dangerous

Workers have the right to refuse to do a job if they believe in good faith that they are exposed to an imminent danger. "Good faith" means that even if an imminent danger is not found to exist, the worker had reasonable grounds to believe that it did exist.

The United States Supreme Court, in the Whirlpool case, issued the landmark ruling which more clearly defined a worker's right to refuse work where an employee has reasonable apprehension that death or serious injury or illness might occur as a result of performing the work. However, as a general rule, you do not have the right to walk off the job because of unsafe conditions.

REFUSING WORK IS PROTECTED IF:
Your right to refuse to do a task is protected if ALL of the following conditions are met:
✓ Where possible, you have asked the employer to eliminate the danger, and the employer failed to do so; and
✓ You refused to work in "good faith." This means that you must genuinely believe that an imminent danger exists. Your refusal cannot be a disguised attempt to harass your employer or disrupt business; and
✓ A reasonable person would agree that there is a real danger of death or serious injury; and
✓ There isn’t enough time, due to the urgency of the hazard, to get it corrected through regular enforcement channels, such as requesting an OSHA inspection.

CONDITIONS ARE MET, NEXT STEPS:
When all of these conditions are met, you take the following steps:
✓ Ask your employer to correct the hazard;
✓ Ask your employer for other work;
✓ Tell your employer that you won’t perform the work unless and until the hazard is corrected; and
✓ Remain at the worksite until ordered to leave by your employer.

The table below offers a few "IF/THEN" scenarios to follow.

<table>
<thead>
<tr>
<th>IF</th>
<th>THEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>You believe working conditions are unsafe or unhealthful.</td>
<td>Call your employer’s attention to the problem.</td>
</tr>
<tr>
<td>Your employer does not correct the hazard or disagrees with you about the extent of the hazard.</td>
<td>You may file a complaint with OSHA.</td>
</tr>
<tr>
<td>Your employer discriminates against you for refusing to perform the dangerous work.</td>
<td>Contact OSHA immediately.</td>
</tr>
</tbody>
</table>

Filing an OSHA Complaint – Tips for Completing the OSHA-7 Form

INSTRUCTIONS Provided on the Form:
Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the worksite. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper. After you have completed the form, return it to your local OSHA office.

Here are tips for completing the form:

1. Be specific and include appropriate details. The information on the complaint form may be the only description of the hazard that the inspector will see before the inspection. The inspector will base his or her research and planning on this information.

2. Establishment Name, Address, & Type of Business. Be thorough and specific. The inspector’s research on the company and the industry’s hazards will be based on this information.

3. Hazard Description/Location: The hazard description is the most important part of the form. Your answer should explain the hazards clearly. If your complaint is about chemicals, identify them whenever possible and attach copies of labels or MSDSs if you can. Identify the location so the inspector will know where to look.

4. Has this condition been brought to the attention of the employer or another government agency? You should indicate on the form if you have tried to get the employer to fix the hazard before filing the complaint. Also, if another agency, such as a local fire or building department, has been notified of these hazards, OSHA may want to consult with them.

5. Do NOT reveal my name: OSHA will keep your name off the complaint, if you wish. Remember that discrimination for health and safety activity is illegal. If you are a union representative, you may wish to have your name on the complaint.

6. Signature and address: It is important to sign the complaint if you want OSHA to conduct an onsite inspection. Also, your address will allow OSHA to send copies of inspection related materials to you.
General Industry Complaint Scenario

Use the following scenario to determine what information should be put on an OSHA complaint form. Is any additional information needed?

You have worked at Ben Brothers Woodworking for 8 years as a janitor. Ben Brothers is located at 88 Wren Street, Anytown, USA, 40001. The company makes and refinishes office furniture. You usually work the second shift, but come in early sometimes. You and at least 3 of your co-workers have been getting headaches when you are working in the warehouse and the propane-operated forklift is running. You have had headaches over the past two months, at least twice a week.

The forklift operator told you that there are a lot of problems with the forklift and it needs to be replaced. You reported your headaches to your supervisor. She told you to go outside until you felt better and that there was nothing more she could do. You did some research and found out that exposure to propane in a confined, unventilated area can cause headaches, dizziness, difficulty breathing and unconsciousness. There is no monitoring of the air in the warehouse. There is no union at the facility. You decide to file a complaint with OSHA.

NOTES:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Notice of Alleged Safety or Health Hazards

For the General Public:

This form is provided for the assistance of any complainant and is not intended to constitute the exclusive means by which a complaint may be registered with the U.S. Department of Labor.

Sec 8(f)(1) of the Williams-Steiger Occupational Safety and Health Act, 29 U.S.C. 651, provides as follows: Any employees or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall be signed with reasonable particularity the grounds for the notice, and shall be signed by the employee or representative of employees, and a copy shall be provided to the employer or his agent no later than at the time of inspection, except that, upon request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. Upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists, he shall notify the employees or representative of the employees in writing of such determination.

NOTE: Section 11(c) of the Act provides explicit protection for employees exercising their rights, including making safety and health complaints.

For Federal Employees:

This report format is provided to assist Federal employees or authorized representatives in registering a report of unsafe or unhealthful working conditions with the U.S. Department of Labor.

The Secretary of Labor may conduct unannounced inspection of agency workplaces when deemed necessary if an agency does not have occupational safety and health committees established in accordance with Subpart F, 29 CFR 1960, or in response to the reports of unsafe or unhealthful working conditions upon request of such agency committees under Sec. 1-5, Executive Order 12180, or in the case of a report of imminent danger when such a committee has not responded to the report as required in Sec 1-201(h).

INSTRUCTIONS:

Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the workplace. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper.

After you have completed the form, return it to your local OSHA office.

NOTE:

It is unlawful to make any false statement, representation or certification in any document filed pursuant to the Occupational Safety and Health Act of 1970. Violations can be punished by a fine of not more than $10,000, or by imprisonment of not more than six months, or by both. (Section 17(g))

Public reporting burden for this voluntary collection of information is estimated to vary from 15 to 25 minutes per response with an average of 17 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An Agency may not conduct or sponsor, and persons are not required to respond to the collection of information unless it displays a valid OMB Control Number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Directorate of Enforcement Programs, Department of Labor, Room N-3119, 200 Constitution Ave., NW, Washington, DC, 20210.

OMB Approval# 1218-0044; Expires: 05-31-2011
Do not send the completed form to this Office.
Notice of Alleged Safety or Health Hazards

<table>
<thead>
<tr>
<th>Establishment Name</th>
<th>Complaint Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Address</td>
<td>Site Phone</td>
</tr>
<tr>
<td></td>
<td>Site FAX</td>
</tr>
<tr>
<td>Mailing Address</td>
<td>Mail Phone</td>
</tr>
<tr>
<td></td>
<td>Mail FAX</td>
</tr>
<tr>
<td>Management Official</td>
<td>Telephone</td>
</tr>
<tr>
<td>Type of Business</td>
<td></td>
</tr>
</tbody>
</table>

HAZARD DESCRIPTION/LOCATION: Describe briefly the hazard(s) which you believe exist. Include the approximate number of employees exposed to or threatened by each hazard. Specify the particular building or work site where the alleged violation exists.

Has this condition been brought to the attention of:
- [ ] Employer
- [ ] Other Government Agency (specify)

Please indicate Your Desire:
- [ ] Do NOT reveal my name to my Employer
- [ ] My name may be revealed to the Employer

The undersigned believes that a violation of an Occupational Safety or Health standard exists which is a job safety or health hazard at the establishment named on this form:
- [ ] Employee
- [ ] Federal Safety and Health Committee
- [ ] Representative of Employees
- [ ] Other (specify)

<table>
<thead>
<tr>
<th>Complainant Name</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address (Street, City, State, Zip)</td>
<td></td>
</tr>
</tbody>
</table>

Signature

Date

If you are an authorized representative of employees affected by this complaint, please state the name of the organization that you represent and your title:

Organization Name:

Your Title:

OSHA 10-Hr General Industry Study Guide
Filing an OSHA Complaint – Tips for Completing the OSHA-7 Form

INSTRUCTIONS Provided on the Form:
Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the worksite. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper. After you have completed the form, return it to your local OSHA office.

Here are tips for completing the form:

1. Be specific and provide appropriate details: The information on the complaint form may be the only description of the hazard that the inspector will see before the inspection. The inspector will base his or her research and planning on this information.

2. Establishment Name, Address, & Type of Business: Be thorough and specific. The inspector’s research on the company and the industry’s hazards will be based on this information.

3. Hazard Description/Location: The hazard description is the most important part of the form. Your answer should explain the hazards clearly. If your complaint is about chemicals, identify them whenever possible and attach copies of labels or MSDSs if you can. Identify the location so the inspector will know where to look.

4. Has this condition been brought to the attention of the employer or another government agency? You should indicate on the form if you have tried to get the employer to fix the hazard before filing the complaint. Also, if another agency, such as a local fire or building department, has been notified of these hazards, OSHA may want to consult with them.

5. Do NOT reveal my name: OSHA will keep your name off the complaint, if you wish. Remember that discrimination for health and safety activity is illegal. If you are a union representative, you may wish to have your name on the complaint.

6. Signature: It is important to sign the complaint if you want OSHA to conduct an onsite inspection. Also, your address will allow OSHA to send copies of inspection related materials to you.
Construction Complaint Scenario

Use the following scenario to determine what information should be put on an OSHA complaint form. Is any additional information needed?

You are a construction worker for ABC, Inc, 1000 Sweet Road, Anytown, USA, 40001. ABC does non-residential plumbing, heating and air-conditioning work. You have worked for ABC for 3 years. You, along with 7 co-workers, have been installing sheetmetal ductwork in the lower level of the Anytown Shopping Mall, which is undergoing renovation, for the past few weeks. The site is located in the Northwest quadrant, in the basement of the anchor store, located at 555 Times Drive, in Anytown. One of your co-workers has been operating a 65-horsepower concrete cutting saw in the same area. The saw is being run in the propane mode. You and several co-workers get headaches from the fumes whenever the saw is used and have told your supervisor about the problem. The supervisor said that nothing could be done, because the General Contractor, CAB Management, has control over the site and this job will be complete in another month. You did some research and found out that exposure to propane in a confined, unventilated area can cause headaches, dizziness, difficulty breathing and unconsciousness. There is no ventilation or monitoring of the air in the area.

After talking to your union representative, you decide to file a complaint with OSHA.

NOTES:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

OSHA 10-Hr General Industry Study Guide
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

For the General Public:

This form is provided for the assistance of any complainant and is not intended to constitute the exclusive means by which a complaint may be registered with the U.S. Department of Labor.

Sec 8(f)(1) of the Williams-Steiger Occupational Safety and Health Act, 29 U.S.C. 651, provides as follows: Any employees or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall be set forth with reasonable particularity the grounds for the notice, and shall be signed by the employee or representative of employee, and a copy shall be provided the employer or his agent no later than at the time of inspection, except that, upon request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. If upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists, he shall notify the employees or representative of the employees in writing of such determination.

NOTE: Section 11(c) of the Act provides explicit protection for employees exercising their rights, including making safety and health complaints.

For Federal Employees:

This report format is provided to assist Federal employees or authorized representatives in registering a report of unsafe or unhealthful working conditions with the U.S. Department of Labor.

The Secretary of Labor may conduct unannounced inspection of agency workplaces when deemed necessary if an agency does not have occupational safety and health committees established in accordance with Subpart F, 29 CFR 1960; or in response to the reports of unsafe or unhealthful working conditions upon request of such agency committee under Sec. 1-3, Executive Order 12196; or in the case of a report of imminent danger when such a committee has not responded to the report as required in Sec. 1-201(b).

INSTRUCTIONS:

Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the workplace. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper.

After you have completed the form, return it to your local OSHA office.

NOTE: It is unlawful to make any false statement, representation or certification in any document filed pursuant to the Occupational Safety and Health Act of 1970. Violations can be punished by a fine of not more than $10,000 or by imprisonment of not more than six months, or by both. (Section 17(g))

Public reporting burden for this voluntary collection of information is estimated to vary from 15 to 25 minutes per response with an average of 17 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An Agency may not conduct or sponsor, and persons are not required to respond to the collection of information unless it displays a valid OMB Control Number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Directorate of Enforcement Programs, Department of Labor, Room N-3119, 200 Constitution Ave., NW, Washington, DC; 20210.

OSHA Approval# 1213-0064; Expires: 03-31-2011
Do not send the completed form to this Office.

OSHA-7(Rev. 9/93)
# Notice of Alleged Safety or Health Hazards

<table>
<thead>
<tr>
<th>Establishment Name</th>
<th>Complaint Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Address</td>
<td>Site Phone</td>
</tr>
<tr>
<td>Site Address</td>
<td>Site FAX</td>
</tr>
<tr>
<td>Mailing Address</td>
<td>Mail Phone</td>
</tr>
<tr>
<td>Mailing Address</td>
<td>Mail FAX</td>
</tr>
<tr>
<td>Management Official</td>
<td>Telephone</td>
</tr>
<tr>
<td>Type of Business</td>
<td></td>
</tr>
</tbody>
</table>

**HAZARD DESCRIPTION/LOCATION.** Describe briefly the hazard(s) which you believe exist. Include the approximate number of employees exposed to or threatened by each hazard. Specify the particular building or worksite where the alleged violation exists.

---

Has this condition been brought to the attention of:  
- [ ] Employer  
- [ ] Other Government Agency (specify)

Please Indicate Your Desire:  
- [ ] Do NOT reveal my name to my Employer  
- [ ] My name may be revealed to the Employer

The Undersigned believes that a violation of an Occupational Safety or Health standard exists which is a job safety or health hazard at the establishment named on this form. (Mark "X" in ONE box)  
- [ ] Employee  
- [ ] Other (specify)  
- [ ] Federal Safety and Health Committee  
- [ ] Representative of Employees

Complainant Name:  
Address (Street, City, State, Zip):  
Signature:  
Date:  
Telephone:  

If you are an authorized representative of employees affected by this complaint, please state the name of the organization that you represent and your title:

Organization Name:  
Your Title:

OSHA 10-Hr General Industry Study Guide
Filing an OSHA Complaint – Tips for Completing the OSHA-7 Form

INSTRUCTIONS Provided on the Form:
Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the worksite. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper. After you have completed the form, return it to your local OSHA office.

Here are tips for completing the form:

1. Be specific and include appropriate details: The information on the complaint form may be the only description of the hazard that the inspector will see before the inspection. The inspector will base his or her research and planning on this information.

2. Establishment Name, Address, & Type of Business: Be thorough and specific. The inspector's research on the company and the industry's hazards will be based on this information.

3. Hazard Description/Location: The hazard description is the most important part of the form. Your answer should explain the hazards clearly. If your complaint is about chemicals, identify them whenever possible and attach copies of labels or MSDSs if you can. Identify the location so the inspector will know where to look.

4. Has this condition been brought to the attention of the employer or another government agency? You should indicate on the form if you have tried to get the employer to fix the hazard before filing the complaint. Also, if another agency, such as a local fire or building department, has been notified of these hazards, OSHA may want to consult with them.

5. Do NOT reveal my name: OSHA will keep your name off the complaint, if you wish. Remember that discrimination for health and safety activity is illegal. If you are a union representative, you may wish to have your name on the complaint.

6. Signature and address: It is important to sign the complaint if you want OSHA to conduct an onsite inspection. Also, your address will allow OSHA to send copies of inspection related materials to you.
Maritime Industry Complaint Scenario

Use the following scenario to determine what information should be put on an OSHA complaint form. Is any additional information needed?

You are a longshoreman who operates a propane-operated forklift truck for ABC, Inc, 1000 Pier Street, Anytown, USA, 40001. ABC is involved in terminal operations and warehousing. You have worked for ABC for 3 years. For the past week, you have been transporting rolls of coiled steel from a storage area to a different section of the longshoring terminal, due to hurricane damage to another part of the terminal. As a result, you have been working inside the terminal more than you usually do. The area you are working in is somewhat confined and crowded due to extra storage. You have noticed that you are getting headaches and feeling dizzy. Two other co-workers working with you are also having the same symptoms. You are concerned that the forklift needs maintenance, and have asked your supervisor to have it checked out, but he looked it over and said it didn’t need service. You and your union representative requested air monitoring of the area, but your supervisor did not agree. There is limited ventilation in the area. You did some research and found out that exposure to propane in a confined, unventilated area can cause headaches, dizziness, difficulty breathing and unconsciousness.

After talking to your union representative, you decide to file a complaint with OSHA.

NOTES:

_________________________________________________________________________________________
_________________________________________________________________________________________
_________________________________________________________________________________________
_________________________________________________________________________________________
_________________________________________________________________________________________
_________________________________________________________________________________________
_________________________________________________________________________________________
_________________________________________________________________________________________
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

For the General Public:

This form is provided for the assistance of any complainant and is not intended to constitute the exclusive means by which a complaint may be registered with the U.S. Department of Labor.

Sec 80(1) of the Williams-Steiger Occupational Safety and Health Act, 29 U.S.C. 651, provides as follows: Any employees or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall set forth with reasonable particularity the grounds for the notice, and shall be signed by the employee or representative of employee, and a copy shall be provided the employer or his agent no later than at the time of inspection, except that, upon request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. If upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists, he shall notify the employees or representative of the employees in writing of such determination.

NOTE: Section 11(c) of the Act provides explicit protection for employees exercising their rights, including making safety and health complaints.

For Federal Employees:

This report format is provided to assist Federal employees or authorized representatives in registering a report of unsafe or unhealthy working conditions with the U.S. Department of Labor.

The Secretary of Labor may conduct unannounced inspection of agency workplaces when deemed necessary if an agency does not have occupational safety and health committees established in accordance with Subpart F, 29 CFR 1960, or in response to the reports of unsafe or unhealthy working conditions upon request of such agency committees under Sec. 1-3, Executive Order 12196; or in the case of a report of imminent danger when such a committee has not responded to the report as required in Sec. 1-201(h).

INSTRUCTIONS:

Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the worksite. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper.

After you have completed the form, return it to your local OSHA office.

NOTE: It is unlawful to make any false statement, representation or certification in any document filed pursuant to the Occupational Safety and Health Act of 1970. Violations can be punished by a fine of not more than $10,000, or by imprisonment of not more than six months, or by both. (Section 17(g))

Public reporting burden for this voluntary collection of information is estimated to vary from 15 to 25 minutes per response with an average of 17 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An Agency may not conduct or sponsor, and persons are not required to respond to the collection of information unless it displays a valid OMB Control Number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Directorate of Enforcement Programs, Department of Labor, Room N-3119, 200 Constitution Ave., NW, Washington, DC 20210.

OMB Approval # 1218-0064; Expires: 04-30-2011
Do not send the completed form to this Office.

OSHA-7(Rev. 9/93)
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

<table>
<thead>
<tr>
<th>Establishment Name</th>
<th>Complaint Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Address</td>
<td>Site Phone</td>
</tr>
<tr>
<td>Mailing Address</td>
<td>Mail Phone</td>
</tr>
<tr>
<td>Management Official</td>
<td>Telephone</td>
</tr>
</tbody>
</table>

HAZARD DESCRIPTION/LOCATION. Describe briefly the hazard(s) which you believe exist. Include the approximate number of employees exposed to or threatened by each hazard. Specify the particular building or worksite where the alleged violation exists.

Has this condition been brought to the attention of:

- [ ] Employer
- [ ] Other Government Agency (specify)

Please Indicate Your Desire:

- [ ] Do NOT reveal my name to my Employer
- [ ] My name may be revealed to the Employer

The undersigned believes that a violation of an Occupational Safety or Health standard exists which is a job safety or health hazard at the establishment named on this form.

- [ ] Employee
- [ ] Representative of Employees
- [ ] Other (specify)

Complainant Name     
Address (Street, City, State, Zip)
Signature             
Date

If you are an authorized representative of employees affected by this complaint, please state the name of the organization that you represent and your title.

Organization Name:   
Your Title:          

OSHA 10-Hr General Industry Study Guide
Your Rights as a Whistleblower

You may file a complaint with OSHA if your employer retaliates against you by taking unfavorable personnel action because you engaged in protected activity relating to workplace safety and health, commercial motor carrier safety, pipeline safety, air carrier safety, nuclear safety, the environment, asbestos in schools, corporate fraud, SEC rules or regulations, railroad carrier safety or security, or public transportation agency safety or security.

Whistleblower Laws Enforced by OSHA

Each law requires that complaints be filed within a certain number of days after the alleged retaliation.

You may file complaints by telephone or in writing under the:
- Occupational Safety and Health Act (30 days)
- Surface Transportation Assistance Act (180 days)
- Asbestos Hazard Emergency Response Act (90 days)
- Pipeline Safety Improvement Act (180 days)
- Federal Rail Safety Act (180 days)
- National Transit Systems Security Act (180 days)

Under the following laws, complaints must be filed in writing:
- Clean Air Act (30 days)
- Comprehensive Environmental Response, Compensation and Liability Act (30 days)
- Energy Reorganization Act (180 days)
- Federal Water Pollution Control Act (30 days)
- Safe Drinking Water Act (90 days)
- Sarbanes-Oxley Act (90 days)
- Solid Waste Disposal Act (30 days)
- Toxic Substances Control Act (30 days)
- Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (90 days)

Unfavorable Personnel Actions

Your employer may be found to have retaliated against you if your protected activity was a contributing or motivating factor in its decision to take unfavorable personnel action against you. Such actions may include:
- Firing or laying off
- Blacklisting
- Demoting
- Denying overtime or promotion
- Disciplining
- Denying benefits
- Failing to hire or rehire
- Intimidation
- Reassignment affecting promotion prospects
- Reducing pay or hours

Filing a Complaint

If you believe that your employer retaliated against you because you exercised your legal rights as an employee, contact your local OSHA office as soon as possible, because you must file your complaint within the legal time limits. OSHA conducts an in-depth interview with each complainant to determine whether to conduct an investigation. For more information, call your closest OSHA Regional Office:

- Boston (617) 565-9860
- New York (212) 327-2032
- Philadelphia (215) 561-8000
- Atlanta (404) 567-2000
- Chicago (312) 353-2220
- Dallas (972) 680-4045
- Kansas City (816) 293-8745
- Denver (720) 261-5500
- San Francisco (415) 625-2547
- Seattle (206) 563-9590

Addresses, fax numbers and other contact information for these offices can be found on OSHA's website, www.osha.gov, and in local directories. Some complaints must be filed in writing and some may be filed verbally (call your local OSHA office for assistance). Written complaints may be filed by mail (we recommend certified mail), fax, or hand-delivered during business hours. The date postmarked, faxed or hand-delivered is considered the date filed.

If retaliation for protected activity relating to occupational safety and health issues takes place in a state that operates an OSHA-approved state plan, the complaint should be filed with the state agency, although persons in those states may file with Federal OSHA at the same time. Although the Occupational Safety and
Health Act covers only private sector employees, state plans also cover state and local government employees. For details, see http://www.osha.gov/iso/csp/index.html.

How OSHA Determines Whether Retaliation Took Place
The investigation must reveal that:
- The employee engaged in protected activity;
- The employer knew about the protected activity;
- The employer took an adverse action; and
- The protected activity was the motivating factor (or under some laws, a contributing factor) in the decision to take the adverse action against the employee.

If the evidence supports the employee’s allegation and a settlement cannot be reached, OSHA will issue an order requiring the employer to reinstate the employee, pay back wages, restore benefits, and other possible remedies to make the employee whole.

Limited Protections for Employees Who Refuse to Work
You have a limited right under the OSHA Act to refuse to do a job because conditions are hazardous. You may do so under the OSHA Act only when (1) you believe that you face death or serious injury (and the situation is so clearly hazardous that any reasonable person would believe the same thing); (2) you have tried to get your employer to correct the condition, and there is no other way to do the job safely; and (3) the situation is so urgent that you do not have time to eliminate the hazard through regulatory channels such as calling OSHA.

Regardless of the unsafe condition, you are not protected if you simply walk off the job. For details, see http://www.osha.gov/iss/opa/worker/refuse.html. OSHA cannot enforce union contracts or state laws that give employees the right to refuse to work.

Whistleblower Protections in the Transportation Industry
Employees whose jobs directly affect commercial motor vehicle safety are protected from retaliation by their employers for refusing to violate or for reporting violations of Department of Transportation (DOT) motor carrier safety standards or regulations, or refusing to operate a vehicle because of such violations or because they have a reasonable apprehension of death or serious injury.

Similarly, employees of air carriers, their contractors or subcontractors who raise safety concerns or report violations of FAA rules and regulations are protected from retaliation, as are employees of owners and operators of pipelines, their contractors and subcontractors who report violations of pipeline safety rules and regulations. Employees involved in international shipping who report unsafe shipping containers are also protected. In addition, employees of railroad carriers or public transportation agencies, their contractors or subcontractors who report safety or security conditions or violations of federal rules and regulations relating to railroad or public transportation safety or security are protected from retaliation.

Whistleblower Protections for Voicing Environmental Concerns
A number of laws protect employees who report violations of environmental laws related to drinking water and water pollution, toxic substances, solid waste disposal, air quality and air pollution, asbestos in schools, and hazardous waste disposal sites. The Energy Reorganization Act protects employees who raise safety concerns in the nuclear power industry and in nuclear medicine.

Whistleblower Protections When Reporting Corporate Fraud
Employees who work for publicly traded companies or companies required to file certain reports with the Securities and Exchange Commission are protected from retaliation for reporting alleged mail, wire, or bank fraud; violations of rules or regulations of the SEC, or federal laws relating to fraud against shareholders.

More Information
To obtain more information on whistleblower laws, go to www.osha.gov, and click on the link for “Whistleblower Protection.”

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:

OSHA
U.S. Department of Labor
www.osha.gov
(800) 321-OSHA

DEP 11/2007
Employers Must Provide and Pay for PPE

Personal Protective Equipment (PPE)

The Occupational Safety and Health Administration (OSHA) requires that employers protect you from workplace hazards that can cause injury or illness. Controlling a hazard at its source is the best way to protect workers. However, when engineering, work practice and administrative controls are not feasible or do not provide sufficient protection, employers must provide personal protective equipment (PPE) to you and ensure its use.

PPE is equipment worn to minimize exposure to a variety of hazards. Examples include items such as gloves, foot and eye protection, protective hearing protection (earplugs, muffs), hard hats and respirators.

<table>
<thead>
<tr>
<th>Employer Obligations</th>
<th>Workers should:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Performing a “hazard assessment” of the workplace to identify and control physical and health hazards.</td>
<td>✓ Properly wear PPE</td>
</tr>
<tr>
<td>✓ Identifying and providing appropriate PPE for employees.</td>
<td>✓ Attend training sessions on PPE</td>
</tr>
<tr>
<td>✓ Training employees in the use and care of the PPE.</td>
<td>✓ Care for, clean and maintain PPE, an</td>
</tr>
<tr>
<td>✓ Maintaining PPE, including replacing worn or damaged PPE.</td>
<td>✓ Inform a supervisor of the need to repair or replace PPE.</td>
</tr>
<tr>
<td>✓ Periodically reviewing, updating and evaluating the effectiveness of the PPE program.</td>
<td></td>
</tr>
</tbody>
</table>

Employers Must Pay for Personal Protective Equipment (PPE)

On May 15, 2008, a new OSHA rule about employer payment for PPE went into effect. With few exceptions, OSHA now requires employers to pay for personal protective equipment used to comply with OSHA standards. The final rule does not create new requirements regarding what PPE employers must provide.

The standard makes clear that employers cannot require workers to provide their own PPE and the worker’s use of PPE they already own must be completely voluntary. Even when a worker provides his or her own PPE, the employer must ensure that the equipment is adequate to protect the worker from hazards at the workplace.

Examples of PPE that Employers Must Pay for Include:
- Metatarsal foot protection
- Rubber boots with steel toes
- Non-prescription eye protection
- Prescription eyewear inserts/lenses for full face respirators
- Goggles and face shields
- Fire fighting PPE (helmet, gloves, boots, proximity suits, full gear)
- Hard hats
- Hearing protection
- Welding PPE
Employers Must Provide and Pay for PPE

Payment Exceptions under the OSHA Rule

Employers are not required to pay for some PPE in certain circumstances:
- Non-specialty safety-toe protective footwear (including steel-toe shoes or boots) and non-specialty prescription safety eyewear provided that the employer permits such items to be worn off the job site. (OSHA based this decision on the fact that this type of equipment is very personal, is often used outside the workplace, and that it is taken by workers from jobsite to jobsite and employer to employer.)
- Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots.
- Ordinary clothing, skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen
- Items such as hair nets and gloves worn by food workers for consumer safety.
- Lifting belts because their value in protecting the back is questionable.
- When the employee has lost or intentionally damaged the PPE and it must be replaced.

OSHA Standards that Apply

**OSHA General Industry PPE Standards**
- 1910.132: General requirements and payment
- 1910.133: Eye and face protection
- 1910.134: Respiratory protection
- 1910.135: Head protection
- 1910.136: Foot protection
- 1910.137: Electrical protective devices
- 1910.138: Hand protection

**OSHA Construction PPE Standards**
- 1926.28: Personal protective equipment
- 1926.95: Criteria for personal protective equipment
- 1926.96: Occupational foot protection
- 1926.100: Head protection
- 1926.101: Hearing protection
- 1926.102: Eye and face protection
- 1926.103: Respiratory protection

There are also PPE requirements in shipyards and marine terminals and many standards on specific hazards, such as 1910.1030: Bloodborne pathogens and 1910.148: Permit-required confined spaces.

OSHA standards are online at [www.osha.gov](http://www.osha.gov).

Sources:
- *Employers Must Provide and Pay for PPE, New Jersey Work Environment Council (WEC) Fact Sheet*
- *OSHA Standards, 1910.132(h) and 1926.95(d)*
- *Employer Payment for Personal Protective Equipment Final Rule, Federal Register: November 15, 2007 (Volume 72, Number 220)*
How to Read the OSHA Standards
29 CFR 1910 – General Industry

Under Title 29, Chapter XVII, the OSHA regulations are broken down into Parts. Part 1910, for example, is commonly known as the OSHA General Industry standards. Part 1926 covers OSHA construction standards and Parts 1915, 1917 and 1918 include the OSHA standards for the maritime industry.

Subparts
Under each part, such as Part 1910, major blocks of information are further broken into subparts. The major subparts in 1910 standards include:

<table>
<thead>
<tr>
<th>Subpart</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Walking-Working Surfaces</td>
</tr>
<tr>
<td>E</td>
<td>Means of Egress</td>
</tr>
<tr>
<td>F</td>
<td>Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms</td>
</tr>
<tr>
<td>G</td>
<td>Occupational Health and Environmental Control</td>
</tr>
<tr>
<td>H</td>
<td>Hazardous Materials</td>
</tr>
<tr>
<td>I</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>J</td>
<td>General Environmental Controls</td>
</tr>
<tr>
<td>K</td>
<td>Medical and First Aid</td>
</tr>
<tr>
<td>L</td>
<td>Fire Protection</td>
</tr>
<tr>
<td>M</td>
<td>Compressed Gas and Compressed Air Equipment</td>
</tr>
<tr>
<td>N</td>
<td>Materials Handling and Storage</td>
</tr>
<tr>
<td>O</td>
<td>Machinery and Machine Guarding</td>
</tr>
<tr>
<td>P</td>
<td>Hand and Portable Powered Tools</td>
</tr>
<tr>
<td>Q</td>
<td>Welding, Cutting and Brazing</td>
</tr>
<tr>
<td>R</td>
<td>Special Industries</td>
</tr>
<tr>
<td>S</td>
<td>Electrical</td>
</tr>
<tr>
<td>Z</td>
<td>Toxic and Hazardous Substances</td>
</tr>
</tbody>
</table>

Sections
Each Subpart is further broken down into sections. For example, Subpart D – Walking-Working Surfaces has sections 1910.21 through 1910.30.

- 1910.21 – Definitions.
- 1910.22 – General requirements.
- 1910.23 – Guarding floor and wall openings and holes.
- 1910.25 – Portable wood ladders.
- 1910.26 – Portable metal ladders.
- 1910.27 – Fixed ladders.
- 1910.28 – Safety requirements for scaffolding.
- 1910.29 – Manually propelled mobile ladder stands and scaffolds (towers).
- 1910.30 – Other working surfaces.

Example: Reading OSHA Standards – Breaking Down the Numbers

Portable containers shall not be taken into buildings except as provided in paragraph (b)(6)(i) of this section.

Numbers:

<table>
<thead>
<tr>
<th>Title</th>
<th>Code of Fed. Reg.</th>
<th>Part</th>
<th>Section</th>
<th>Lower Case Alpha</th>
<th>Arabic Number</th>
<th>Lower Case Roman</th>
<th>Italicizer*</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>CFR</td>
<td>1910</td>
<td>.110</td>
<td>(b)</td>
<td>(13)</td>
<td>(ii)</td>
<td>(b)/(7)(iii)</td>
</tr>
</tbody>
</table>

*For standards promulgated prior to 1979, italics are used to list the fourth set of parentheses. After 1979, a capital/upper case letter is used in this space.
How to Read the OSHA Standards
29 CFR 1926 – Construction

**Under Title 29, Chapter XVII, the OSHA regulations are broken down into Parts.**
Part 1926, for example, is commonly known as the OSHA Construction Standards. Part 1910 covers OSHA General Industry Standards and Parts 1915, 1917 and 1918 include the OSHA Standards for the Maritime Industry.

<table>
<thead>
<tr>
<th>Subparts</th>
<th>General Safety and Health Provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subpart D</td>
<td>Occupational Health and Environmental Controls</td>
</tr>
<tr>
<td>Subpart E</td>
<td>Personal Protective and Life Saving Equipment</td>
</tr>
<tr>
<td>Subpart F</td>
<td>Fire Protection and Prevention</td>
</tr>
<tr>
<td>Subpart G</td>
<td>Signs, Signals and Barricades</td>
</tr>
<tr>
<td>Subpart H</td>
<td>Materials Handling, Storage, Use, and Disposal</td>
</tr>
<tr>
<td>Subpart I</td>
<td>Tools – Hand and Power</td>
</tr>
<tr>
<td>Subpart J</td>
<td>Welding and Cutting</td>
</tr>
<tr>
<td>Subpart K</td>
<td>Electrical</td>
</tr>
<tr>
<td>Subpart L</td>
<td>Scaffolds</td>
</tr>
<tr>
<td>Subpart M</td>
<td>Fall Protection</td>
</tr>
<tr>
<td>Subpart N</td>
<td>Cranes, Derricks, Hoists, Elevators, and Conveyors</td>
</tr>
<tr>
<td>Subpart O</td>
<td>Motor Vehicles, Mechanized Equipment, and Marine Operations</td>
</tr>
<tr>
<td>Subpart P</td>
<td>Excavations</td>
</tr>
<tr>
<td>Subpart Q</td>
<td>Concrete and Masonry Construction</td>
</tr>
<tr>
<td>Subpart R</td>
<td>Steel Erection</td>
</tr>
<tr>
<td>Subpart S</td>
<td>Underground Construction, Caissons, Cofferdams, and Compressed Air</td>
</tr>
<tr>
<td>Subpart T</td>
<td>Demolition</td>
</tr>
<tr>
<td>Subpart U</td>
<td>Blasting and the Use of Explosives</td>
</tr>
<tr>
<td>Subpart V</td>
<td>Power Transmission and Distribution</td>
</tr>
<tr>
<td>Subpart W</td>
<td>Rollover Protective Structures; Overhead Protection</td>
</tr>
<tr>
<td>Subpart X</td>
<td>Ladders</td>
</tr>
<tr>
<td>Subpart Y</td>
<td>Commercial Diving</td>
</tr>
<tr>
<td>Subpart Z</td>
<td>Toxic and Hazardous Substances</td>
</tr>
</tbody>
</table>

**Sections**
Each subpart is further broken down into sections. For example, Subpart C – General Safety and Health Provisions, has sections 1926.20 through 1926.35.

- 1926.20 – General safety and health provisions.
- 1926.21 – Safety training and education.
- 1926.22 – Recording and reporting of injuries.
- 1926.23 – First aid and medical attention.
- 1926.24 – Fire protection and prevention.
- 1926.25 – Housekeeping.
- 1926.26 – Illumination.
- 1926.27 – Sanitation.
- 1926.28 – Personal protective equipment.
- 1926.29 – Acceptable certifications.
- 1926.30 – Shipbuilding and ship repairing.
- 1926.31 – Incorporation by reference.
- 1926.32 – Definitions.
- 1926.33 – Access to employee exposure and medical records.
- 1926.34 – Means of egress.
- 1926.35 – Employee emergency action plans.

**Example: Reading OSHA Standard Numbers**

**Standard:**
29 CFR 1926.152(i)(1)(C)

**Breaking down the number:**

<table>
<thead>
<tr>
<th>Code of Title</th>
<th>Code of Part</th>
<th>Code of Section</th>
<th>Lower Case Alpha</th>
<th>Arabic Number</th>
<th>Lower Case Roman</th>
<th>Capital/Upper Case Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>CFR</td>
<td>1926</td>
<td>.152</td>
<td>(i)</td>
<td>(I)</td>
<td>(I)</td>
</tr>
</tbody>
</table>

*For standards promulgated after 1979, a capital/upper case letter is used in the fourth set of parentheses. Prior to 1979, the fourth set of parentheses are italicized.

OSHA 10-Hr General Industry Study Guide
How to Read the OSHA Standards

Under Title 29, Chapter XVII, the OSHA regulations are broken down into Parts. Parts 1915, 1917, and 1918 include the OSHA standards for the maritime industry. Part 1910 covers OSHA General Industry standards and Part 1926 is commonly known as the OSHA Construction standards.

**Subparts of 29 CFR 1915**
Under each part, such as Part 1915 Occupational Safety and Health Standards for Shipyard Employment, major blocks of information are further broken into subparts. The major subparts in 1915 standards include:

<table>
<thead>
<tr>
<th>Subpart</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subpart A</td>
<td>General Provisions</td>
</tr>
<tr>
<td>Subpart B</td>
<td>Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment</td>
</tr>
<tr>
<td>Subpart C</td>
<td>Surface Preparation and Preservation</td>
</tr>
<tr>
<td>Subpart D</td>
<td>Welding, Cutting and Heating</td>
</tr>
<tr>
<td>Subpart E</td>
<td>Scaffolds, Ladders and Other Working Surfaces</td>
</tr>
<tr>
<td>Subpart F</td>
<td>General Working Conditions</td>
</tr>
<tr>
<td>Subpart G</td>
<td>Gear and Equipment for Rigging and Materials Handling</td>
</tr>
<tr>
<td>Subpart H</td>
<td>Tools and Related Equipment</td>
</tr>
<tr>
<td>Subpart I</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>Subpart J</td>
<td>Ship’s Machinery and Piping Systems</td>
</tr>
<tr>
<td>Subpart K</td>
<td>Portable, Unfired Pressure Vessels, Drums and Containers, Other Than Ship’s Equipment</td>
</tr>
<tr>
<td>Subpart L</td>
<td>Electrical Machinery</td>
</tr>
<tr>
<td>Subpart M</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart N</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart P</td>
<td>Fire Protection in Shipyard Employment</td>
</tr>
<tr>
<td>Subpart Q</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart R</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart S</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart T</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart U</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart V</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart W</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart X</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart Y</td>
<td>Reserved</td>
</tr>
<tr>
<td>Subpart Z</td>
<td>Toxic and Hazardous Substances</td>
</tr>
</tbody>
</table>

**Sections**
Each subpart is further broken down into sections. For example, Subpart B – Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment, has sections 1915.11 through 1915.16 with appendices.

- 1915.11 – Scope, application, and definitions applicable to this subpart.
- 1915.12 – Precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres.
- 1915.13 – Cleaning and other cold work.
- 1915.14 – Hot work.
- 1915.15 – Maintenance of safe conditions.
- 1915.16 – Warning signs and labels.
- 1915 Subpart B App A – Compliance Assistance Guidelines for Confined and Enclosed Spaces and Other Dangerous Atmospheres
- 1915 Subpart B App B – Reprint of U.S. Coast Guard Regulations Referenced in Subpart B, for Determination of Coast Guard Authorized Persons.

**Example: Reading OSHA Standard Numbers**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Breaking Down the Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1915.7(b)(2)(iii)(B)</td>
<td>The roster shall contain, as a minimum, the date the employee was trained as a competent person.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Code of Fed. Reg.</th>
<th>Part</th>
<th>Section</th>
<th>Lower Case Alpha</th>
<th>Arabic Number</th>
<th>Lower Case Roman</th>
<th>Capital Case Upper Case Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 CFR</td>
<td>1915</td>
<td>.7</td>
<td>(b)</td>
<td>(2)</td>
<td>(iii)</td>
<td>(B)</td>
<td></td>
</tr>
</tbody>
</table>

*For standards promulgated after 1979, a capital/upper case letter is used in the fourth set of parentheses. Prior to 1979, the fourth set of parentheses are italicized.*

OSHA 10-Hr General Industry Study Guide
How to Read the OSHA Standards

SUBPARTS OF 29 CFR 1917
UNDER EACH PART, SUCH AS PART 1917 MARINE TERMINALS, MAJOR BLOCKS OF INFORMATION ARE FURTHER BROKEN INTO SUBPARTS. THE MAJOR SUBPARTS IN 1917 STANDARDS INCLUDE:

<table>
<thead>
<tr>
<th>Subpart</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Scope and Definitions</td>
</tr>
<tr>
<td>B</td>
<td>Marine Terminal Operations</td>
</tr>
<tr>
<td>C</td>
<td>Cargo Handling Gear and Equipment</td>
</tr>
<tr>
<td>D</td>
<td>Specialized Terminals</td>
</tr>
<tr>
<td>E</td>
<td>Personal Protection</td>
</tr>
<tr>
<td>F</td>
<td>Terminal Facilities</td>
</tr>
<tr>
<td>G</td>
<td>Related Terminal Operations and Equipment</td>
</tr>
</tbody>
</table>

SUBPARTS OF 29 CFR 1918
UNDER EACH PART, SUCH AS PART 1918 SAFETY AND HEALTH REGULATIONS FOR LONGSHORING, MAJOR BLOCKS OF INFORMATION ARE FURTHER BROKEN INTO SUBPARTS. THE MAJOR SUBPARTS IN 1918 STANDARDS INCLUDE:

<table>
<thead>
<tr>
<th>Subpart</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Scope and Definitions</td>
</tr>
<tr>
<td>B</td>
<td>Gear Certification</td>
</tr>
<tr>
<td>C</td>
<td>Gangways and Other Means of Access</td>
</tr>
<tr>
<td>D</td>
<td>Working Surfaces</td>
</tr>
<tr>
<td>E</td>
<td>Opening and Closing Hatches</td>
</tr>
<tr>
<td>F</td>
<td>Vessel’s Cargo Handling Gear</td>
</tr>
<tr>
<td>G</td>
<td>Cargo Handling Gear and Equipment Other Than Ship’s Gear</td>
</tr>
<tr>
<td>H</td>
<td>Handling Cargo</td>
</tr>
<tr>
<td>I</td>
<td>General Working Conditions</td>
</tr>
<tr>
<td>J</td>
<td>Personal Protective Equipment</td>
</tr>
</tbody>
</table>

SECTIONS
EACH SUBPART IS FURTHER BROKEN DOWN INTO SECTIONS. FOR EXAMPLE, SUBPART G – RELATED TERMINAL OPERATIONS AND EQUIPMENT, HAS SECTIONS 1917.151 THROUGH 1917.158.

- 1917.151 – Machine guarding.
- 1917.152 – Welding, cutting and heating (hot work).
- 1917.153 – Spray painting.
- 1917.154 – Compressed air.
- 1917.155 – Air receivers.
- 1917.156 – Fuel handling and storage.
- 1917.157 – Battery charging and changing.
- 1917.158 – Prohibited operations.

NOTES:

EXAMPLE: READING OSHA STANDARD NUMBERS

<table>
<thead>
<tr>
<th>STANDARD: 29 CFR 1917.43(a)(2)(i)(C)</th>
<th>BREAKING DOWN THE NUMBER:</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE DRIVE CHAIN SHALL BE ENCLOSED TO A HEIGHT OF EIGHT FEET (2.44 M) EXCEPT FOR THAT POSITION AT THE LOWER HALF OF THE LOWER SPROCKET.</td>
<td>CODE OF FED. REG.</td>
</tr>
<tr>
<td>PART</td>
<td>1917</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STANDARD: 1918.66(a)(14)(ii)(A)</th>
<th>BREAKING DOWN THE NUMBER:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Including brake shoes]25 percent when used with an other than mechanically controlled braking means.</td>
<td>CODE OF FED. REG.</td>
</tr>
<tr>
<td>PART</td>
<td>1918</td>
</tr>
</tbody>
</table>

*For standards promulgated after 1979, a capital/upper case letter is used in the fourth set of parentheses. Prior to 1979, the fourth set of parentheses are italicized.
Safety & Health Resources

Government Resources

OSHA: http://www.osha.gov/
Contact the OSHA Office nearest you or contact the toll free number:
1-800-321-OSHA (6742)

NIOSH: http://www.cdc.gov/niosh/
Phone NIOSH at
1-800-CDC-INFO (1-800-232-4635)
or Email at: cdcinfo@cdc.gov

NIOSH is a part of the Centers for Disease Control and Prevention (http://www.cdc.gov/).
CDC has extensive information on health and safety topics.

COSH GROUPS

COSH groups are private, non-profit coalitions of labor unions, health and technical professionals, and others interested in promoting and advocating for worker health and safety. If you don’t see a COSH group in your area, check the NATIONAL COSH website for local COSH groups.

NATIONAL COUNCIL FOR OCCUPATIONAL SAFETY & HEALTH National COSH is a federation of local and statewide "COSH" groups:
http://www.coshnetwork.org/

CACOSH – Chicago Area Committee on Occupational Safety and Health:
http://www.cacosh.org/

MASSCOSH – Massachusetts Coalition on Occupational Safety and Health:
http://www.masscosh.org/

NYCOSH – New York Committee for Occupational Safety and Health:
http://www.nycosh.org/

PHILAPOSH – Philadelphia Area Project for Occupational Safety and Health:
http://www.philaposh.org/
Prevention (http://www.cdc.gov/).

Universities

CORNELL UNIVERSITY School of Industrial and Labor Relations:
http://www.ilr.cornell.edu/healthSafety/

LABOR OCCUPATIONAL HEALTH PROGRAM, University of California at Berkeley:
http://www.ohuh.org/

NATIONAL LABOR COLLEGE, George Meany Center:
http://www.nlc.edu/

UCLA, Labor Occupational Safety and Health (UCLA-LOSH):
http://www.losh.ucla.edu/

Unions

The following is a sample list of unions with links to useful health and safety information.

AFL-CIO: http://www.aflcio.org/issues/safety/

AFSCME: http://www.afscme.org/issues/73.cfm

eLCOSH – The Electronic Library of Construction Safety and Health is a collection of information on construction safety and health developed by CPWR – Center for Construction Research and Training, with funding by NIOSH:
http://www.elcosh.org/

SEIU (Service Employees International Union) Health and Safety Department:

UAW Health and Safety Department: http://www.uaw.org/hs/
Section 1 – PRODUCT AND COMPANY INFORMATION

Manufacturer: IMS Company  
10373 Stafford Road  
Chagrin Falls, OH 44023-5296  
WEB: imscompany.com

Emergency Phone: 800-424-9300  
Prepared by: Product Safety Advisor  
Prepared/Revised: April 19, 2006  
E-mail: sales@imscompany.com

Item Number  
107320  2 ounce jar  
107439  14 ounce cartridge  
105998  16 ounce jar  
107526  8 pounds, 1 gallon pail  
107433  42 pounds, 5 gallon pail  

Hazardous Material Information System

Health 1 Flammability 1 Reactivity 1 Protection X
0 Normal use Material 0 Will Not Burn 0 Stable X = Consult the
1 Slight Hazard (temporary) 1 Possible to Burn 1 Unstable if Heated MSDS and
2 Health Affected (lengthy) 2 Burns if Heated 2 Violent Chemical Change your supervisor
3 Extreme Danger 3 Easily Burns 3 Shock and Heat Sensitive for your special
4 Severe or Fatal 4 Very Easily Burns 4 May Explode workplace need

* Chronic (Accumulates)

NOTE The HMIS may not be enough hazard information for this chemical in all workplaces. The HMIS system requires employee training about the system and about information in this MSDS.

Section 2 – INGREDIENTS INFORMATION

<table>
<thead>
<tr>
<th>#</th>
<th>Chemical/Common Name</th>
<th>CAS-Number</th>
<th>%</th>
<th>PEL-OSHA</th>
<th>TLV-ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1-Decene homopolymer</td>
<td>68037-01-4</td>
<td>70 to 90</td>
<td>5mg/m³</td>
<td>5mg/m³</td>
</tr>
<tr>
<td>2</td>
<td>Organophlic clay</td>
<td>68963-58-2</td>
<td>5 to 25</td>
<td>10 mg/m³</td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td>3</td>
<td>Polytetrafluoroethylene</td>
<td>9002-64-0</td>
<td>0.1 to 10</td>
<td>(1) (3)</td>
<td>(1) (3)</td>
</tr>
<tr>
<td>4</td>
<td>Methylene bis dithiocarbonate</td>
<td>10254-57-6</td>
<td>0.1 to 10</td>
<td>(1)</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>5</td>
<td>Zinc oxide (2)</td>
<td>1314-13-2</td>
<td>0.1 to 10</td>
<td>5mg/m³</td>
<td>5mg/m³</td>
</tr>
</tbody>
</table>

(1) Not Established  
(2) Subject to SARA Title III Section 313 reporting requirements.  
(3) Manufacturer’s exposure level is 5mg/m³ for respirable dust.  
(4) As respirable quartz.

This product Does Not Contain carcinogens according to NTP, IARC, or OSHA.

Section 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW  Small amount (very thick material) is not expected to cause any emergency condition.

HEALTH EFFECTS  (Acute and Chronic)

Nose  No vapors expected. Vapors from elevated temperatures may cause respiratory irritation, harmful if aspirated into lungs. Vapors from over 400°F (204°C) may cause “Fume Fever.”

Mouth  May be harmful if swallowed. Possible irritation, nausea, or diarrhea.

Eyes  Minimal irritation, tearing, reddening, or swelling. Avoid prolonged contact.

Skin  May irritate skin. Avoid long-term contact. Prolonged contact may result in defatting, drying which may lead to irritation, dermatitis, allergic reaction. If injected under skin (with a high pressure grease gun), necrosis could result.

Chronic  Not available

PRIMARY ROUTES OF ENTRY Skin, Eye

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE  Preexisting skin, and eye disorders could be aggravated by exposure to this type of product.
Section 4 – FIRST AID MEASURES

NOTE If irritation persists after any kind of body exposure, get medical help.

Breathing Vapors are not likely to injure, unless the product is heated. Get to fresh air if symptoms appear. If breathing has stopped, administer artificial respiration and get medical attention.

Eating **“Get Medical Help at once”** Do not induce vomiting.

Eye Contact Immediately flush eyes thoroughly with plenty of water for at least 15 minutes. Remove contact lenses. Hold eyelids open to irrigate fully. Get medical attention if irritation persists.

Skin Contact Remove contaminated clothing. Wash exposed area with soap and water. Wash contaminated clothing before re-use. If irritation persists, or if contact has been prolonged, get medical attention.

Medical Notes Treat symptomatically

Section 5 – FIRE FIGHTING MEASURES

Flash Point (estimated) ..........420° F(215° C) Flammable Limits .............LEL = NA ...UEL = NA
Autoignition temperature ..........590° F(310° C)

Extinguishing Media Water spray, alcohol-type foam, or all-purpose-type foam, for large fires. Carbon dioxide or dry chemical for small fires.

Special Fire Fighting Procedures Material will not burn unless preheated. Cool exposed containers with water. Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity. Firefighters should wear full bunker gear, self-contained, positive-pressure breathing apparatus, and protective clothing.

Unusual Fire and Explosion Hazards Streams of water are likely to spread fire. Use water spray only to cool containers. Will not flash spontaneously. Stable at ambient temperatures and pressures. Toxic fumes may be evolved on burning or exposure to heat.

Hazardous Combustion/Decomposition Products Hydrogen fluoride (HF), carbonyl fluoride, perfluoroolefin, carbon anoxide, fluorocarbons, carbon monoxide, carbon dioxide, and unidentified organic compounds.

Section 6 – ACCIDENTAL RELEASE MEASURES

Steps to be Taken in Case Material is Released or Spilled May burn, although not readily ignitable. Wear appropriate personal protective equipment according to the conditions, such as respirator and protective clothing. Small spills can be collected or absorbed with appropriate absorbing materials. Soak up residue with an absorbent such as clay, sand, or other suitable material. Dispose of properly. Flush area with water to remove trace residues, but do not let product or contaminated water get to drains, sewers, or rainfall. All spill response should be carried out in accordance with Federal, State, County/Provincial, and local requirements.

Section 7 – HANDLING AND STORAGE

Precautions to be Taken in Storage Product will burn. Eliminate open flames, strong oxidizers, and other sources of ignition from the storage area. Keep containers closed to avoid contamination from airborne dust and moisture. Observe applicable fire codes. Store in accordance with good industrial practices. These include store in cool, dry area out of direct sunlight (below120° F, 49° C). Do not puncture or burn containers.

Handling Thoroughly wash after handling and before eating, drinking, or using tobacco products.

Maintenance Precautions Do not remove or deface label. Keep container closed.

Other Precautions As per any petroleum-based products, read and follow directions and cautions on the container label.

Section 8 – EXPOSURE CONTROLS – PERSONAL PROTECTION

Ventilation Usually not specifically required. No local exhaust required. General (mechanical) room ventilation may be adequate to maintain product and its components below TLVs/EPSL if handled at ambient temperatures or in covered equipment. Local exhaust ventilation or other engineering controls may be required, if ambient temperatures are exceeded or if used in operations that may produce mist, aerosol, or vapor.

Respiratory Protection Usually none. If personnel exposure exceeds exposure limit at any time, select respiratory protection equipment in accordance with 29 CFR 1910.134. NIOSH approved atmosphere-supplying respirator or a NIOSH approved air-purifying respirator with organic vapor cartridge and dust/mist pre-filter is recommended.
Section 8 – EXPOSURE CONTROLS – PERSONAL PROTECTION (cont)

Protective Gloves If needed to avoid long-term or repeated contact, natural rubber, neoprene, nitrile (NBR), and butyl are recommended materials.

Other Protective Equipment Safety glasses or goggles, and face shield, as appropriate for exposure.

Other Engineering Controls To determine exposure levels, monitoring should be performed. Eye bath and safety shower station should be available.

Work Practices Avoid long-term or repeated contact. Stained clothing should be removed and laundered before reuse. Sudden release of hot vapor or mist from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under vacuum, may result in ignition without the presence of obvious ignition sources. Autoignition temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes must be thoroughly evaluated to establish and maintain safe operating conditions.

Avoid contact with eyes. Wear chemical goggles if there is likelihood of contact. Avoid prolonged or repeated contact with skin. Wear chemical resistant gloves and other clothing as required to minimize contact.

Ventilation should maintain the concentration of the components below their TLV/PEL values.

Hygienic Practices Avoid contact with skin and avoid breathing vapors. Do not eat, drink, or smoke in work area. Wash hands before eating, drinking, or using restroom after using this or any chemical product. Launder contaminated clothing before reuse. Product can contaminate tobacco, causing flu-like sickness (from inhaling product’s polytetrafluoroethylene component heated in tobacco smoke or inhaled from handling tobacco and/or food products). After using this, or any chemical product, wash thoroughly before eating or smoking.

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Pressure at 68°F (20°C)</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>NA</td>
</tr>
<tr>
<td>VOC</td>
<td>NIL</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>NIL</td>
</tr>
<tr>
<td>Melting point</td>
<td>NA</td>
</tr>
</tbody>
</table>

Specific Gravity (Water=1) .......... 0.87
Percent Volatile by Volume (%) ....... NIL
Evaporation Rate (butyl acetate=1) .. NIL
Pour point ................................ NA
pH ........................................... NA

Appearance and Odor Information Light tan to off-white paste, sticky, almost odorless.

Section 10 – STABILITY AND REACTIVITY

Incompatibility (Materials to Avoid) Strong oxidizers

Will Hazardous Polymerization Occur? No

Conditions to Avoid for Polymerization See Incompatibility

Is the Product Stable? Yes

Conditions to Avoid for Stability Temperatures above 392°F (200°C), See Incompatibility

Section 11 – TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>COMPONENT #</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not listed in NTP; IARC; OSHA, Prop 65, and SARA 313. Is listed as a component of non-food article intended for use in contact with food or as a lubricant added to food directly as a result of incidental contact with container or equipment.</td>
</tr>
<tr>
<td>2</td>
<td>AKA Di (tallow alkyl) dimethyl ammonium bentonite, a quaternary compound</td>
</tr>
<tr>
<td>3, 4, 5</td>
<td>Not listed in NTP; IARC; OSHA, Prop 65, and SARA 313.</td>
</tr>
</tbody>
</table>

Section 12 – ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>COMPONENT #</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, 5</td>
<td>No ecological or environmental effects known</td>
</tr>
<tr>
<td>4</td>
<td>Considered toxic to aquatic life</td>
</tr>
</tbody>
</table>
Section 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Consult Federal, State, County/Provincial, and Local regulations. Product is readily reclaimed from many applications; reclamation from spent fluids is encouraged where possible. At low concentrations in water, this product is biodegradable in a biological wastewater treatment plant. Where reclamation is not practical, this product may be incinerated where permitted under Federal, State, County/Provincial, and Local regulations, but only if the facility is capable of scrubbing out HF and other acidic products. Never dispose by means of public sewers or drainage. Empty containers should be recycled or disposed of through an approved waste management facility.

Section 14 – TRANSPORT INFORMATION

Component # COMMENTS
1, 2, 3, 4, 5 Not regulated

Section 15 – REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGH</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>AIHA</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>ANSI</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Canada - USL</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>CFC</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DOT listed</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>EINECS listed</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>EPA - CAA, CAL</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>EU rating #</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>HCF</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>OSHA listed</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>PROP 65 listed</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>RCRA listed</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>SARA 313 list</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>TSCA listed</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>WHMIS-other</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Section 16 – OTHER INFORMATION

CAUTION: Intentional misuse of this chemical product, as with any industrial chemical in contact with the body, can be harmful or fatal. This includes such things as deliberately breathing, placing in mouth, swallowing, placing on skin, or any other body contact, or repeated, or continuous contact.

IMS provides this information in good faith, but makes no representation as to its comprehensiveness or its accuracy. This document is offered as a guide to a trained person, for appropriate precautionary handling. Persons using the product and receiving the information must exercise independent judgment in determining the appropriateness of the use and the safety information for their particular purpose. IMS MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THIS INFORMATION OR TO THE PRODUCT ACCORDINGLY. IMS WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE ON THIS INFORMATION.

ACGIH American Conference of Governmental Hygienists
AKA Also Known As, Synonym
CAS Chemical Abstract Service
IARC International Agency for Research on Cancer
mg/m³ milligrams per Cubic Meter
N No, None, Not listed
NA Not Applicable, Not Available
ND Not Determined
NIL Not measurable, significant, noticeable, or an effect
NTP National Toxicology Program
OSHA Occupational Safety and Health Administration
ppm parts per million
Y Yes, Does Exist, Is Listed,
# Identifying Safety and Health Problems in the Workplace

Identifying health and safety problems can be as easy as answering basic questions. To determine if there are health and safety problems that need to be addressed in your workplace, use these questions:

- Do you or your co-workers have injuries or health complaints? If so, what types?
- Who has been hurt or is having symptoms?
- When do you or your co-workers feel these symptoms?
- Where in the workplace are safety or health problems occurring?
- What are the conditions that are causing problems?

## Health Hazards

<table>
<thead>
<tr>
<th>Common types of health hazards in the workplace are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical (asbestos, solvents, chlorine)</td>
</tr>
<tr>
<td>Biological (tuberculosis, HIV, hepatitis, molds)</td>
</tr>
<tr>
<td>Physical (noise, heat and cold, radiation, vibration)</td>
</tr>
<tr>
<td>Ergonomics or Repetitive Strain Injuries (carpal tunnel syndrome, back injuries)</td>
</tr>
<tr>
<td>Psychological (stress)</td>
</tr>
</tbody>
</table>

## Safety Hazards

<table>
<thead>
<tr>
<th>Common types of safety hazards in the workplace are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slips, trips and falls</td>
</tr>
<tr>
<td>Being caught in or struck by moving machinery or other objects</td>
</tr>
<tr>
<td>Fire and explosions</td>
</tr>
<tr>
<td>Transportation and vehicle-related accidents</td>
</tr>
<tr>
<td>Confined spaces</td>
</tr>
<tr>
<td>Violence</td>
</tr>
</tbody>
</table>

## How health hazards enter your body:

<table>
<thead>
<tr>
<th>How health hazards enter your body:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breathing (inhalation)</td>
</tr>
<tr>
<td>Swallowing (ingestion)</td>
</tr>
<tr>
<td>Skin (absorption)</td>
</tr>
<tr>
<td>Cuts (injection)</td>
</tr>
</tbody>
</table>

## The harm caused by health hazards depends on:

- Strength, or potency, of the agent.
- Amount of the agent that is present.
- How long you are exposed to the agent.
- Part of your body that is exposed.

## Types of health effects:

- Acute: the effect shows up right away.
- Chronic: problems show up after a long period of exposure and/or after the exposure ends.
- Local: only the part of the body that was exposed is affected.
- Systemic: an agent enters the body and affects other parts of the body.

## Cancer

- Cancer is a term for many diseases in different parts of the body.
- Carcinogens are agents that cause cancer.
- There is no totally safe level of exposure to something that causes cancer.
- Cancer from a workplace exposure may develop 10, 20 or more years after the exposure.

## Reproductive effects

- Both men and women can be affected by reproductive hazards at work.
- Reproductive hazards cause miscarriages and birth defects.

## Sensitization

- You may become allergic or sensitive to some agents you work with. Sensitization can develop over time.
- For example, a health care worker may develop a serious allergic reaction to latex used in gloves.

## Violence

- Violence on the job is a growing problem.
- Homicides are the second leading cause of workplace fatalities. Workplace violence includes physical assault as well as near misses, verbal abuse and sexual harassment.


OSHA 10-Hr General Industry Study Guide