

What do you understand by Industrial safety? How safety and productivity are related?

Industrial safety refers to the safety management practices that apply to the industrial sector. Those processes aim to protect industrial workers, machinery, facilities, structures, and the environment

Safety is a concept that includes all measures and practices taken to preserve the life, health, and bodily integrity of individuals. Safety is also beneficial for all organizations since, in addition to avoiding costly fines, it ensures increased productivity, better morale, and fewer lost work days.

Productivity improves safety and quality. With the appropriate (and productive) safety processes, safety can be improved, and quality can be improved as well. The more productive employees are, the less likely they are to cut corners on things like safety processes.

When a workplace or the work itself is unsafe, it means that employees may not be well-managed. That could result in less motivated and mindful employees who are unsatisfied and unhappy with their job. Poor safety management can not only put the team members' safety on the line, but also operations and productivity. Additionally, heavy fines can result if litigation takes place, crippling—if not completely shutting down—an organization.

When safety is a priority and there's a culture of well-being within the workplace (even online), team members can focus on the quality of their work instead of the worry and stress that comes with potentially hazardous work environments.

Distinguish between Hazard and risk. List the common safety hazards.

A hazard is something that can cause harm, e.g. electricity, chemicals, working up a ladder, noise, a keyboard, a bully at work, stress, etc.

A hazard could be a substance, machines, activity, method of work or process. Hazards are found in nearly every workplace, home and any environment. At work, we need to identify hazards when we are carrying out a risk assessment, which is a legal requirement.

A risk is the chance, high or low, that any hazard will actually cause somebody harm.

The risk is assessed based on the severity of the harm and the likelihood of harm occurring. A risk may be high or low taking into account these two factors.


For example, working alone away from your office can be a hazard. The risk of personal danger may be high. Electric cabling is a hazard. If it has snagged on a sharp object, the exposed wiring places it in a 'high-risk' category.

Health and safety hazards exist in every workplace. Some are easily identified and corrected, while others are necessary risks of the job and must be managed in other ways (for instance, by using protective equipment).

Safety Hazards Include:

Spills on floors or tripping hazards, such as blocked aisles or cords running across the floor Working from heights, including ladders, scaffolds, roofs, or any raised work area

Unguarded machinery and moving machinery parts; guards removed or moving parts that a worker can accidentally touch
Electrical hazards like frayed cords, missing ground pins, improper wiring
Confined spaces
Machinery-related hazards (lockout/tag out, boiler safety, forklifts, etc)


 What are the responsibilities of the management in relation to Safety?

1. preparing instructions
2. purchasing machines, equipment and tools
3. monitoring and supervision of working conditions and the work environment
4. Work management
5. monitoring the condition of machines, equipment and tools
6. work guidance
7. monitoring that safe working practices and instructions are complied

 Explain any three human behavior which cause Accidents

Human factors are responsible for large number of accidents that occur in a workplace. The following human factors are common causes of accidents:

- 1 Memory lapses (including forgetting a step in the work process or a safety measure)
- 2 Impaired judgment or reduced reasoning power
- 3 Inattention or distraction
- 4 Delayed or false sensation of the sensory organs
- 5 Lack of competence and experience
- 6 Skill level inadequate for the task performed
- 7 Personality or attitude, such as negligence, arrogance, or overconfidence
- 8 Poor risk perception due to poor knowledge and experience

 What are Cumulative Trauma Disorders? List some of them.

The term Cumulative Trauma Disorder (CTD) refers to an array of conditions that are all precipitated by repetitive stressors on muscles, joints, tendons, and delicate nerve tissues. Overuse syndromes, repetitive strain injuries, regional musculoskeletal disorders, and repetitive trauma disorders are all synonyms for Cumulative Trauma Disorders. These disorders are most common in the hands, wrists and elbows.

Cumulative trauma disorders primarily affect the upper extremities and include such disorders as carpal tunnel syndrome, wrist tendonitis, ulnar nerve entrapment, epicondylitis, shoulder tendonitis, and hand-arm vibration syndrome.

What are the difference between Safety training and other Training Programs?

Safety training consists of a training program designed for your employees. This program should include things like:

Equipment certification: Employees should be trained and certified on all equipment they will be expected to use on a daily basis.

Hazardous material education: Employees should be trained on proper handling and disposal of dangerous materials they may encounter in the course of their duties. This training should also include how to use a material safety data sheet and where to find these sheets in their work environment.

Safety procedures: Training should include all necessary safety procedures, including emergency procedures.

Continuing education: Employee training should constantly be refreshed throughout the course of their career. It's not something you can do once and expect it to stick.

Safety Automation

Safety automation takes some of the responsibility for workplace safety out of employees' hands. This comes in two forms — safety systems and traditional automation.

Safety systems are designed to make the workplace safer overall. It could be as simple as having assigned lanes for large equipment and other areas for pedestrians, or it could be as high tech as utilizing motion sensors, safety gates and other equipment designed to keep people out of harm's way.

Write notes on the importance of safety committees, its formation and its functions.

The purpose of a safety committee is to regularly bring workers and management together in a non-adversarial, cooperative effort to promote safety and health in the workplace.

Safety committees can serve a variety of functions, depending on the facility's safety culture, the amount of training they receive as committee members and the amount of time that management allows committee members to dedicate. Some of the more common functions for safety committees include:

Being a liaison group between employees and management

Increasing awareness of safety at the facility

Identifying workplace risks and creating a plan (or making recommendations) to reduce risks

Integrating safety and health priorities into corporate culture

Encouraging safety training for employees and management

Conducting and evaluating audits

Performing routine safety inspections

 Describe the role of management, supervisors, workmen, unions and government in safety.

Senior management

Procedures concerning the implementation and development of occupational health and safety and its monitor in securing and confirming operational preconditions selecting competent supervisors

Middle management

1. preparing instructions
2. purchasing machines, equipment and tools
3. monitoring and supervision of working conditions and the work environment
4. Work management
5. monitoring the condition of machines, equipment and tools
6. work guidance
7. monitoring that safe working practices and instructions are complied with

Responsibilities of the supervisor

- i. Supervisor must ensure that before the days job begins every workers have being brief on the days job during pep talk and all hazard associated with the task are identified.
- ii. Supervisor make sure that all the equipment tools for the days job are in safe condition for used.
- iii. Supervisor ensures that workers are performing the task according to recommended procedures.

Trade Unions

Major objective of the Trade Unions is to insure the safety of workers. While working every worker must be provided with basic facilities like. Drinking water, minimum working hours, paid holidays, social security, safety equipments, lights and others.

Explain the importance of safety education and training.

Education and training are important tools for informing workers and managers about workplace hazards and controls so they can work more safely and be more productive. Another role of education and training, however, is to provide workers and managers with a greater understanding of the safety and health program itself, so that they can contribute to its development and implementation. Education and training provides employers, managers, supervisors, and workers with:

- ☐ Knowledge and skills needed to do their work safely and avoid creating hazards that could place themselves or others at risk.

- ☐ Awareness and understanding of workplace hazards and how to identify, report, and control them.

- ☐ Specialized training, when their work involves unique hazards.

Additional training may be needed depending on the roles assigned to employers or individual managers, supervisors, and workers. For example, employers, managers, and supervisors may need specific training to ensure that they can fulfill their roles in providing leadership, direction, and resources for the safety and health program. Workers assigned specific roles in the program (e.g., incident investigation team members) may need training to ensure their full participation in those functions.

Effective training and education can be provided outside a formal classroom setting. Peer-to-peer training, on-the-job training, and worksite demonstrations can be effective in conveying safety concepts, ensuring understanding of hazards and their controls, and promoting good work practices.

1. Provide program awareness training
2. Train employers, managers and supervisors on their roles in the program
3. Train workers on their specific roles in the safety and health program
4. Train workers on hazard identification and controls

What are the various training methods?

1. Technology-based learning

With the development of technology, computerized training is becoming more prevalent. It's sometimes referred to as computer-based training (CBT) or e-learning, but it essentially refers to the same thing with one key difference: e-learning is hosted completely online, while computer-based training encompasses any kind of training that takes place on the computer.

2. Simulators

Simulations are an effective training technique for fields that require a specific set of skills for operating complex machinery, such as in the medical or aviation industries. Successful simulations reflect actual work situations, and allow trainees to solve issues that they will likely face on the job.

3. On-the-job training

On-the-job or hands-on training jumps straight to the practical skills necessary for the job. New hires begin working immediately with this training method. In some cases, it may be beneficial to incorporate an employee shadowing component. This will allow new hires to gain a little insight into the context and job requirements before trying it on their own.

4. Coaching/mentoring

Though a structured curriculum has its place in training, there are many benefits to mentorship and coaching. Implementing a mentorship program at your company, along with other training methods, creates employee development opportunities as well as develops relationships that help new employees feel welcomed and supported.

5. Instructor-led training

Classroom-style training is the most traditional and popular training method for employees. This method mimics other classrooms in that an instructor prepares and leads the experience, usually using a lecture-style presentation with a visual component.

6. Case studies

When you're hoping to develop analytical and problem-solving skills, case studies could be the best training technique. Trainees are given scenarios, either real or imagined, that depict common work situations. Either independently or in a group, the employees are then asked to analyze the case and come up with ideal solutions and scenarios.

 Describe in detail the human factors contributing to industrial accidents.

The workplace can be dangerous, even more so in an industrial environment. Numerous factors can cause accidents, ranging from overexertion to mishandling of hazardous materials.

Lifting

Many employees are prone to sprain, strain or tear a muscle by virtue of lifting an object that is too heavy for them to lift on their own. Keep in mind that there is no harm in asking for help with objects that are difficult to lift.

Fatigue

Failing to take a break is another common cause of accidents. In order to recover from grueling manual labor, it is essential that employees take adequate breaks. Not doing so can lead to a slew of physical issues, including atrophy and general exhaustion. The results of either of these can be far more devastating than taking a 10-minute breather.

Dehydration

Not staying hydrated can also bring about disastrous consequences. On exceptionally hot summer days, failing to drink adequate amounts of water can cause heat stroke or cardiac conditions. This can be avoided by simply drinking at least eight glasses of water per day. Management should stress the importance of proper hydration and rest, as it maximizes the efforts of personnel.

Poor Lighting

Inadequate lighting is responsible for a number of accidents each year. This is often overlooked when attempting to prevent accidents in the warehouse or workplace.

Hazardous Materials

Improper handling of hazardous materials or not wearing personal protective equipment (PPE) is another common cause of accidents in the workplace. By reading material safety data sheets and providing the appropriate protective attire, many workplace incidents can be avoided.

Acts of Workplace Violence

Sadly, violence among co-workers has become all too common. It is usually brought about by office politics or other sensitive issues. Integrating conflict resolution and peer mediation can help to reduce the risks of such outbursts.

Trips and Falls

Slick floors and high-traffic corridors can cause a trip or fall. Improper footwear may also contribute to these accidents, which not only can result in injuries but also workman's compensation-related cases. Read [6 Guidelines to Prevent Workplace Slips, Trips and Falls](#) for more advice.

Stress

Stress is one of the leading causes of death. It affects the human body in every facet imaginable. Stress can foster negative effects physiologically, emotionally and mentally, as well as debilitate or distract any worker. Therefore, it is essential to encourage a supportive team environment.