Industrial safety is defined as policies and protections put in place to ensure plant and factory worker protection from hazards that could cause injury.

INDUSTRIAL HAZARD is a situation that possesses a level of threat to life, health, property or environmentINDUSTRIAL **HAZARD** may be defined as any condition produced by **industries** that may cause injury or death to personnel or loss of product or property.SAFETY in simple terms means freedom from the occurrence of risk.

Importance of Industrial safety:

Industrial safety is **important** as it safeguards human life, especially in high risk areas such as nuclear, aircraft, chemical, oil and gases, and mining **industries**, where a fatal mistake can be catastrophic. **Industrial Safety** reduces risks to people, and processes.

General Safety:

General Safety is a multi-disciplinary approach to developing and ensuring compliance with regulatory agencies, **safe** working practices, and maintaining the health and well-being of those employed in a particular occupation or workplace.

Main causes of industrial accident:

- Lifting. Lifting an object that is too heavy can lead to muscle sprain, strain, or tear. ...
- Fatigue. Failing to take a break, especially to recover from physical labor, can lead to inattention and accidents. ...
- Dehydration. ...
- Poor lighting. ...
- Hazardous materials. ...
- Workplace violence. ...
- Trips and falls. ...
- Stress.

How to avoid Accident:

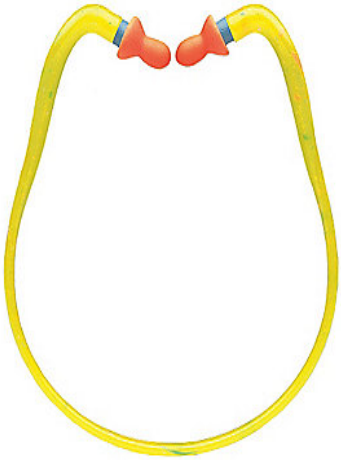
Here are six ways prevent accidents in the workplace:

1. Always be alert. There's a reason why many workers insist upon that morning coffee. ...
2. Don't rush your work. ...
3. Wear required safety gear. ...
4. Follow instructions to a tea. ...
5. Pay attention to and follow emergency drills. ...
6. Insist upon proper training.

Types of PPE:

1. **Eye and Face Protection**
2. **Hand Protection**
3. **Body Protection**
4. **Respiratory Protection**
5. **Hearing Protection**

Hearing protection:

Disposable earplugs	Polyvinyl chloride (PVC) or polyurethane foam, one-time use design (no cleaning), one size fits all, light weight, low cost, blocks all sound. Useful when working in areas where sound levels average over 85 dBa; EH&S can assist in assessments	
Reusable earplugs	Silicone, tapered fit, reusable (needs cleaning), corded or uncorded, light weight, more durable than disposable earplugs. Useful when working in areas where sound levels average over 85 dBa; EH&S can assist in assessments	
Hearing band	Earplugs connected to a flexible band that can be worn around the neck when not needed. Useful when working in areas where sound levels average over 85 dBa; EH&S can assist in assessments	

Respiratory Protection:

Type		Use	
Surgical masks	Protect against large droplets and splashes (*does not require fit-testing*)	Working with live animals; working with infectious material in BSL-2+ level labs but only protects your sample from you, not the other way around.	
N-95 respirators	Protects against dusts, fumes, mists, microorganisms (*requires fit-testing*)	Working with live animals or infectious materials in BSL-2 level labs with known airborne transmissible disease (e.g. tuberculosis, also required for influenza (flu)); dusty environments	
Half-mask respirators	Purifies air: protects against variety of particulates, vapours, dust, mists, fumes; depends on filter cartridge used (*requires fit-testing*)	Working with live animals or infectious materials with known airborne transmissible disease; dusty environments; chemical vapours; particulates	
Full-face respirators	Same as half-mask, with greater protection factor; eye, mucus membranes and face protection; depends on filter cartridge used (*requires fit-testing*)	Working with live animals or infectious materials with known airborne transmissible disease; dusty environments; chemical vapors; particulates	
Respirator cartridges	For use in half-mask respirators and full-face respirators	• P-100: for dust only • Organic Vapor (OV): for fumes of organic solvents only • Acid Gas: vapors of hydrochloric acid, sulfuric acid, etc	

Body Protection:

Type	Use	
Traditional (cotton/cotton-polyester blend - protects skin and clothing from dirt, inks, non-hazardous chemicals)	General use; chemical, biological, radiation and physical hazards	
Flame resistant (e.g. Nomex or other flame-resistant cotton — resists ignition)	Working with water or air reactive chemicals, large volumes of organic solvents, and potentially explosive chemicals	
Barrier (predominantly polyester — offers splash protection, not flame resistant)	Working with infectious materials	

Hand Protection:

Type		Use	
Light latex, vinyl or nitrile gloves	Disposable latex (powdered or unpowdered)	Working with biological hazards (human blood, body fluids, tissues, bloodborne pathogens, specimens), BSL1, BSL2, BSL2+, BSL3	

	Disposable nitrile (puncture and abrasion resistant, protection from splash hazards)	Working with biological hazards and chemical splash hazards	
	Disposable vinyl (economical, durable, similar to latex)	Working with biological hazards, BSL1, BSL2, BSL2+, BSL3	
Light chemical resistant gloves	Natural rubber latex (chemical resistant, liquid-proof)	Working with small volumes of corrosive liquids, organic solvents, flammable compounds	
Light to heavy chemical resistant gloves	Nitrile (chemical resistant, good puncture, cut and abrasion resistance)	Using apparatus under pressure, air or water reactive chemicals	
Heavy chemical resistant gloves	Butyl (high permeation resistance to most chemicals)	Working with large volumes of organic solvents; small to large volumes of dangerous solvents, acutely toxic or hazardous materials	
	Viton® II (high permeation resistance to most chemicals)	Same as butyl gloves, plus hazardous material spills	

	Silver shield (extra chemical and mechanical protection)	Same as butyl and Viton® II gloves, added mechanical protection, hazardous material spills	
Insulated gloves	Terrycloth autoclave (heat resistant)	Working with hot liquids and equipment, open flames, water bath, oil bath	
	Cryogen (water resistant or water proof, protection against ultra-cold temperatures)	Handling cryogenic liquids	
Wire mesh gloves	Wire mesh (cut resistant)	Working with live animals and exposed to potential cuts	

Eye and Face Protection:

Type	Use	
General safety glasses	• Must have side shields, or a one-piece lens that wraps around the temple. • Are the minimum level of eye protection that must be worn in the laboratory. • Are not effective in protecting the eyes from splashes, and are only recommended for use with solutions that are not likely to damage the eye, such as some buffers and salts.	

Laser safety glasses	• Selection is based on the laser wavelength and power. • Protective properties can be found printed on the eyewear. • Are not as effective as laser safety goggles at filtering all light entering the eyes. • EH&S does not provide laser safety glasses or goggles for use in the laboratory, but will assist in selecting the correct laser safety goggles or glasses for your application, which can be purchased by the PI as needed.	
Chemical splash goggles	• Are recommended any time a splash of chemicals or infectious substances could reach the eyes. • Can act as impact goggles to prevent flying debris from reaching the eyes. • May be purchased from the campus bookstore or obtained from EH&S in accordance with LHAT recommendations.	
Impact goggles	• Offer protection from flying debris only. • Often have ventilation holes on the sides that render the user susceptible to chemical splashes and dust or small debris. • EH&S does not offer impact goggles, but chemical splash goggles can often be used in substitution. Feel free to contact EH&S with any questions regarding this substitution.	
Face shields	• Required when splashes from chemicals that can cause immediate skin damage are handled (e.g. working with concentrated acids, dispensing liquid nitrogen, sonicating tissue samples, etc.). • Shall be worn in conjunction with chemical splash goggles. Respiratory protective equipment might be required, depending on the task; contact EH&S if you have any questions regarding face shield use. • All new PIs receive two complimentary face shields from EH&S. Existing PIs received two face shields during the 2013 PPE distribution event. Additional and/or replacement face shields can be purchased by PIs.