



Safety Manual

Mitra S.K
PRIVATE LIMITED

PREFACE

MITRA S.K. is committed to treating its employees with value for dignity, integrity, openness and fairness. Through this manual the Company wants to ensure that each member in the organisation is familiar with the organisation's Safety policies and procedures, which have been formed for the benefit of all the employees of the Company, and that there is uniformity in information and treatment.

The manual records the detailed micro - level operational guidelines of various safety measures with the objective of achieving consistent, uniform and fair interpretation of various policies/procedures at all times..

Considerable time and effort has gone in to putting together these policies which are designed to improve the quality of life at MITRA S.K. GROUP. Your suggestions regarding these or any other policies are most welcome as these would help us plan for the future.



Managing Director

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Confidentiality

This manual is the property of the Company and the details contained herein should be treated with utmost confidentiality and the contents should not be reproduced in part or in full without the prior written permission of the Management. The information contained in this manual should not be shared with any person not employed in the Company.

Introduction

The Policy, Make the safety and health of our employees the first consideration in operating our business. Safety and health in our business must be a part of every operation, and every employee's responsibility at all levels. To do, this, we must constantly be aware of conditions in all work areas that can produce or lead to injuries.

The cooperation in detecting hazards, reporting dangerous conditions and controlling workplace hazards is a condition of employment.

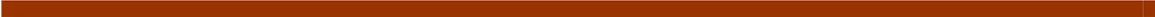
The laboratory supervisors have special responsibilities, for the health and safety of people related to lab. There are many areas of laboratory safety not addressed in these policies. Management will make every reasonable effort to create safe and healthful work environment.



Objectives

Mitra S.K. is aware of workplace safety concerns and strives to develop clear workplace safety objectives and procedures, and integrate those initiatives across the organization to ensure the safety of their employees and community, comply with regulations, and promote business profitability.

The Safety Objectives & Targets System of Mitra S.K. helps to identify the safety aspects, set clearly defined objectives and targets, and track the success of results. The system enables to effectively identify and manage progress towards achieving the safety objectives and targets that have been put in place to monitor significant safety aspects.



POLICY

(OCCUPATIONAL HEALTH & SAFETY)

- MITRA S.K. PRIVATE LTD IS COMMITTED CARRY OUT ITS OPERATIONS SAFELY AND IN A WAY THAT PREVENTS INJURY & ILL HEALTH OF ITS EMPLOYEES. IT SHALL ENDEAVOUR TO CONTINUALLY IMPROVE ITS OH & S MANAGEMENT AND PERFORMANCE
- MITRA S.K. PRIVATE LTD.'S OBJECTIVE OF CREATING A HAZARD FREE WORK ENVIRONMENT FOR ITS EMPLOYEES SHALL BE REVIEWED PERIODICALLY FOR ITS CONTINUING SUITABILITY.



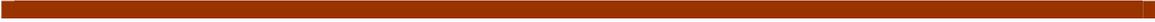
(Managing Director)

Date: 01.09.09



Our mission

Ensuring a safe and healthy work environment for all the employees.



Safety principles

The safety policy of Mitra S.K is based on and the following principles:

1. All injuries and occupational illness are preventable.
2. All operational exposures can be safeguarded.
3. Safety evaluation of all business processes is vital.
4. Working safely is a condition of employment.
5. Training all employees to work safely is essential.
6. Management audits are a must.
7. Employee involvement is essential.
8. All deficiencies must be reported and corrected promptly.

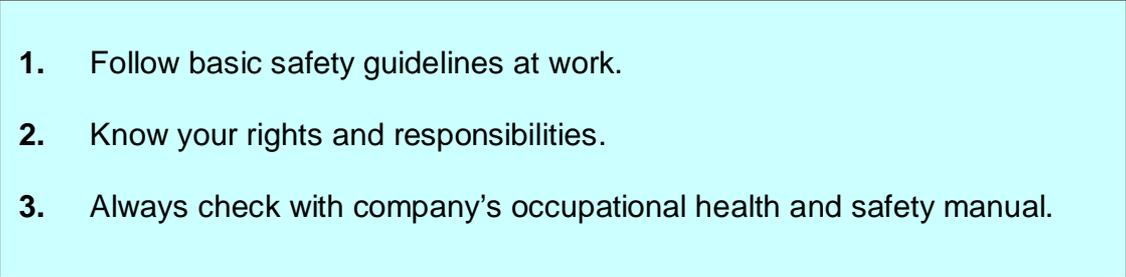
Responsibility for safety

Responsibility shall be defined in writing for Managers, Lab- in charge, executive and middle level operating management, supervisors, safety coordinator, and employees.

1. Design/ensure safe equipment, processes and facilities.
2. Analyse operations to help it run efficiently and profitably.
3. Monitor, analyze and correct operational processes that might be hazardous for employees and for people in nearby communities.
4. Ensure employee safety.
5. Develop fire safety and prevention programmes.
6. Investigate and analyze accidents.



Learn how to be safe

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1. Follow basic safety guidelines at work.
 2. Know your rights and responsibilities.
 3. Always check with company's occupational health and safety manual.
- 

Storage of chemical

Chemical shall be stored securely, in the minimum practical quantities, and protected from exposure to excessive heat, cold or damage.

Upon receipt, chemicals shall be entered into the laboratory chemical inventory. For chemicals which degrade over time, the date of receipt should be noted on the label.

Chemicals shall not be stored on the floor or on the shelves with open back which could allow the chemical to fall off the back of the shelf.

Work place hazards

Type of work	Potential hazard
Office/lab	<ul style="list-style-type: none"> • Poorly designed computer work station • Stress • Harassment
Field	<ul style="list-style-type: none"> • Unsafe working conditions • Vehicle movement • Sample preparation machinery • Falling objects • Splintering • Heavy earth moving equipment • Light material handling equipment in warehouse • Ship • Wharf • On board a ship • On board a railway wagon



Responsibility

To maintain accurate and up- to-date health records or, as the case may be, medical records, of the workers in the Field/ Lab who are exposed to any chemical, toxic or any other harmful substances which are stored, handled or transported and such records shall be accessible to the employees subject to such conditions as may be prescribed.

Handling waste

- All waste that poses a risk of infection for people or animals shall be collected and stored in a manner that minimizes the infection risk and shall be rendered non-infectious before being discarded. Treatment may involve chemical treatment, autoclaving or incineration.
- Broken glass or sharp equipment that is not contaminated with hazardous chemicals shall be sealed in a robust puncture-resistant package prior to being discarded along with regular trash. Contaminated sharps must be cleaned of contamination before being discarded.
- Containers that have contained hazardous chemical shall be cleaned to remove chemical residues and labels shall be disposed of with regular trash or recycled.
- Non-hazardous, solid chemical may be disposed of along with regular trash in sealed containers. Containers shall be clearly marked with a label showing the date, the name of the generator of the waste and indicating that the package contains “waste non- hazardous materials”
- Non-hazardous liquid waste may be flushed down a sanitary drain.

Safety of buildings, machinery & working near Dumpers / Payloaders

Any building or part of a building or any part of the ways, machinery or plant in work place is in such a condition that it is dangerous to human life or safety, special care is to be taken to immediately repair it. Management will give an order in writing prohibiting its use until it has been properly repaired or altered.

Employees working near Dumpers / Pay loaders and where there is movement of vehicles should ensure that they maintain a safe working distance

Personnel protective equipment

Aprons

Protective aprons should be provided for each people when there is a possibility of spillage or spattering of chemicals or hot water (teacher-dispensed).

Safety gloves

Employees working in laboratories/field or with chemical testing should wear protective gloves when handling mineral, coal, soil samples, or any other materials that might contain harmful microorganisms or allergens. Wearing gloves may also be appropriate for some chemicals that can cause skin irritation or staining.

Eye wash station

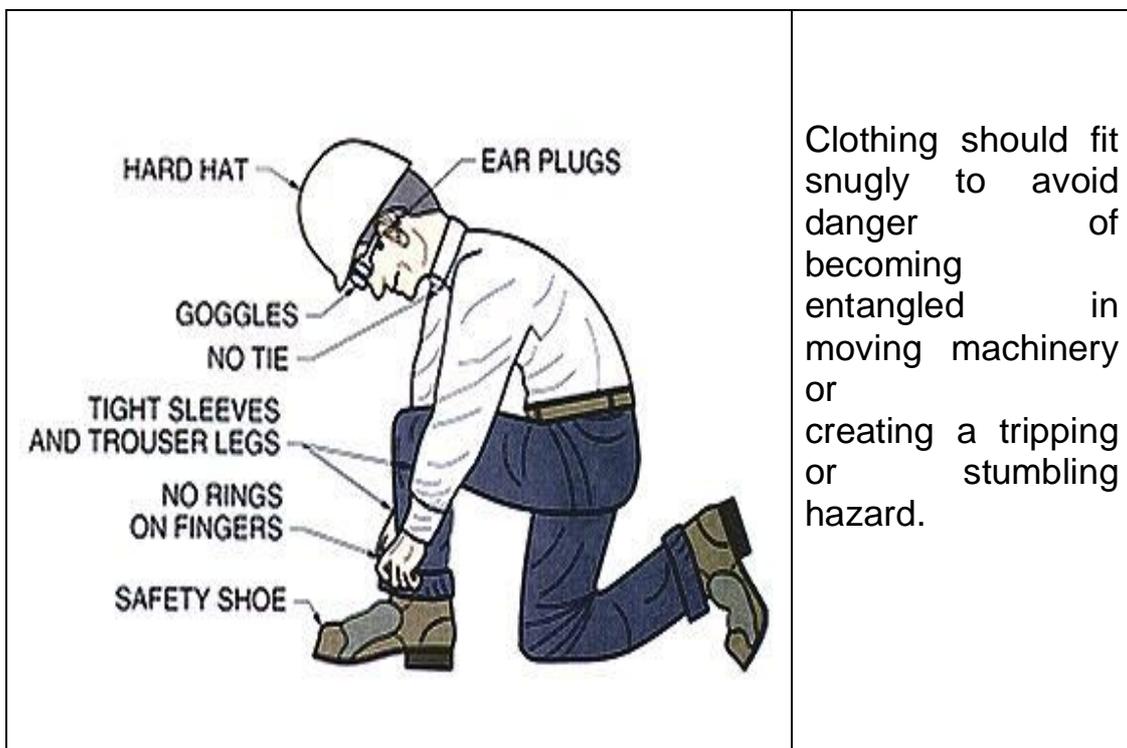
A faucet-type portable eyewash unit should be placed on a gooseneck faucet in order to irrigate an employee's eye if a chemical or particle (salt, sand) lands in it. Eyewash stations should be placed low enough for elementary worker to use and should comply safety standards.

Reflective jackets

Supervisors & Samplers and all those connected with field operations must wear Reflective Jackets

Clothing

Clothing should fit snugly to avoid danger of becoming entangled in moving machinery or creating a tripping or stumbling hazard. See figure.



Clothing should fit snugly to avoid danger of becoming entangled in moving machinery or creating a tripping or stumbling hazard.

Industrial visor

Industrial visor should be used at sample preparation shed.

Recommended safe work clothes include:

- Thick-soled work shoes for protection against sharp objects such as nails. Wear work shoes with safety toes if the job requires. Make sure the soles are oil resistant if the shoes are subject to oils and grease.
- Rubber boots for damp locations.
- Wear an approved safety helmet (hard hat) if the job requires.
- *Reflective jackets*
- Confine long hair or keep hair trimmed and avoid placing the head in close proximity to rotating machinery. Do not wear jewelry. Gold and silver are excellent conductors of electricity.

Fire safety

Always read instructions before using a fire extinguisher. Always use the correct fire extinguisher for the class of fire. See Figure. Fire extinguishers are normally red. Fire extinguishers may be located on a red background so that they can be easily located.

Chance of fire is greatly reduced through good housekeeping. Keep rags containing oil, gasoline, alcohol, shellac, paint, varnish, or lacquer in a covered metal container. Keep debris in a designated area away from the building. Sound an alarm if a fire occurs. Alert all workers on the job and then call the fire department. After calling the fire department, make a reasonable effort to contain the fire. Adequate numbers of **ABC tri class fire extinguishers** should be available and their locations should be known to all. Ideally, they should be strategically placed within 20-30 steps distance or 10-15 seconds travel time of any location in the room. These should be checked and certified as fully charged at least annually and ready for use.

Definition of ABC class fire extinguisher

A is for paper, wood, cloth, rubber, or plastics fire.

B is for burning liquids, gases, or greases and

C is for electrical fire.

Remember to use the **PAS** method

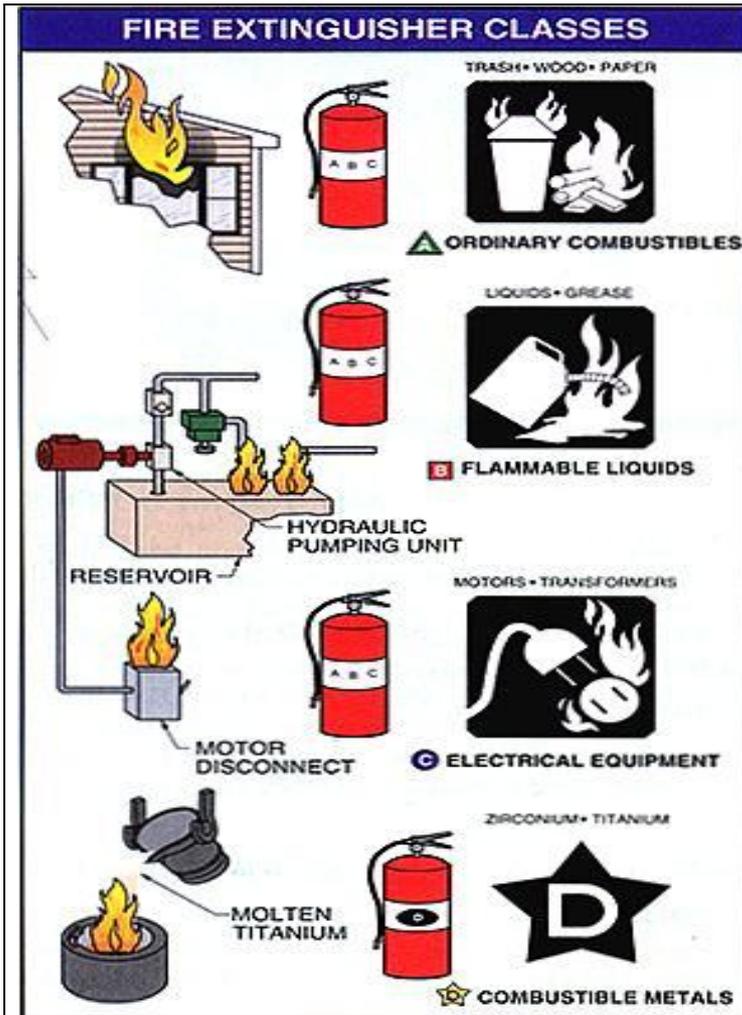
Pull pin.

Aim at base of fire.

Squeeze handle.

Fire extinguisher

Fire extinguisher



Always use the correct fire extinguisher for the right class of fire.

There is also a D class fire extinguisher used for fire in metals.

Be ready to direct firefighters to the fire. Inform them of any special problems or conditions that exist, such as downed electrical wires or leaks in gas lines.

Report any accumulations of rubbish or unsafe conditions that could be fire hazards. Also, if a portable tool bin is used on the job, a good practice is to store a CO2 extinguisher in it.

Precautions in case of fire

In every work place, all practicable measures shall be taken to prevent outbreak of fire and its spread, both internally and externally, and to provide and maintain

- Safe means of escape for all response in the event of fire and
- The necessary equipment and facilities for extinguishing fire

Effective measures shall be taken to ensure that in every work place all the employees are familiar with the means of escape in case of fire and have been adequately trained in the routine to be followed in such case.

REACT Upon discovery of fire or smoke

Remove persons in immediate danger

Ensure doors are closed (Confine fire/Smoke)

Activate the building alarm

Call the fire department

Treat all fire as dangers

Electrical safety

- Place **Men at Work** sign on all the switches before commencing work. Ensure that fuses are withdrawn before any work for added safety.
- Always treat a circuit as 'alive' unless until it is proved otherwise beyond doubt.
- Ensure that all the splices and connections are fully secured and do remember to discharge any cable to earth before setting out to work on its core.
- Keep rubber mats before the electrical switches and have the rubber gloves periodically checked.
- Make sure that employees are fully familiar with all kinds of fire fighting equipments that are available and they know which ones can be used in case of electrical fire. One can use sand or blankets to contain a fire caused due to electrical fault.
- Warn others when they happen to be dangerously close to high tension electrical line. Special care should be taken when climbing a railway wagon/rake over which high tension electrical line has passed.

- Turn away your face whenever a flash or an arc is expected. Use industrial visor.
- Do not close any switch without knowing which and all circuits may be under its control and exactly why that switch has been kept open.
- Do not touch or tamper with any electrical gear or a conductor unless you have ascertained that it is dead and earthed. A high-voltage apparatus is known to give leakage shock or flash without you having actually touched it.
- Do not touch a circuit with your bare fingers or the hand or some other make-shift device to discover whether it is alive or dead.
- Do not close or open a switch hesitatingly. Always do it firmly and quickly.
- Do not allow usage of frail wires with worn out insulation.
- Don't throw water on live equipments in case of electric fire. It could prove out to be highly dangerous. Also, do not make use of fire extinguishers on electrical fires unless they are clearly marked for use under such a condition.

- Do not bring a naked flame near any oil filled equipment and strictly prohibit any smoking in the area where batteries are installed.
- Do not allow visitors to venture into high voltage zones in your work place.

Fuse

Before removing any fuse from a circuit, be sure the switch for the circuit is open or disconnected. When removing fuses, use an approved fuse puller and break contact on the hot side of the circuit first. When replacing fuses, install the fuse first into the load side of the fuse clip, then into the line side

Shock

Electrical shock occurs when a person comes in contact with two conductors of a circuit or when the body becomes part of the electrical circuit. In either case, a severe shock can cause the heart and lungs to stop functioning. Also, severe burns may occur when current enters and exits the body.

Always make sure portable electric tools are in safe operating condition. Make sure there is a third wire on the plug for grounding in case of shorts. The fault current should flow through the third wire to ground instead of through the operator's body to ground if electric power tools are grounded and if an insulation breakdown occurs.

Safety for equipment

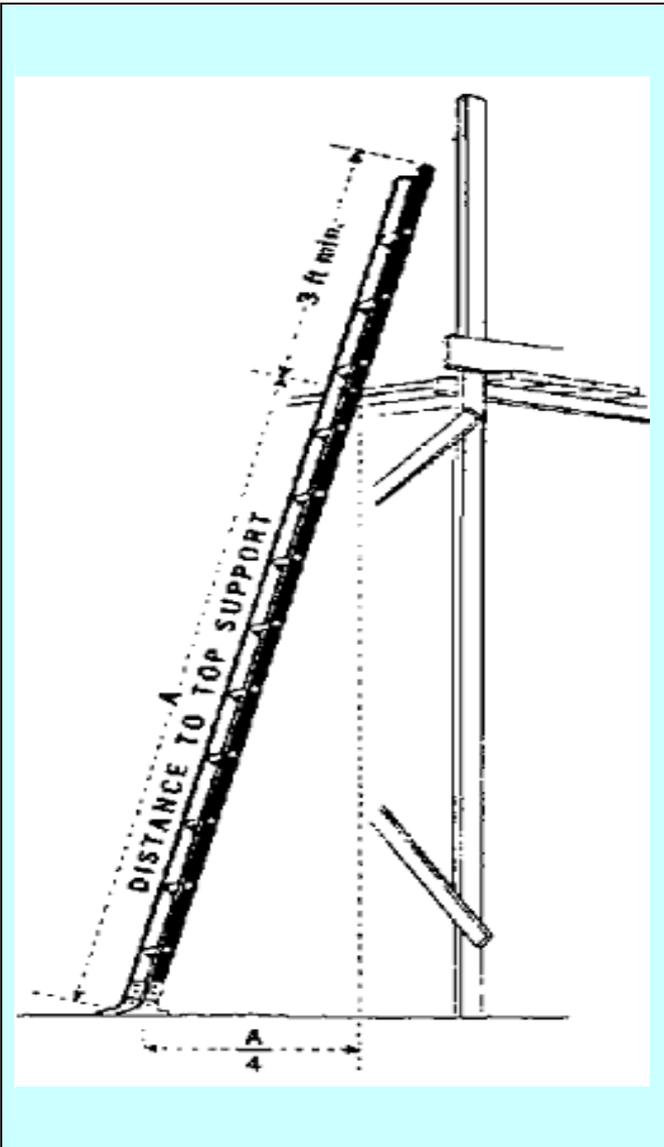
- Get to know all the different parts of the equipment or machine e.g. start button, normal stops, speed change levers, coolant system, etc. before using any machine.
- Identify the emergency stops on the equipment before using the equipment.
- Think before starting any work, in case of doubt ask the technician.
- Ensure that the guards are in place and safety devices are in working order before starting the machine.
- Never disconnect or deactivate any safety devices on a machine or equipment. If any safety device has failed, have it repaired first and then use the machine.
- Ensure that the machine is properly set for the job being performed.
- Use push sticks to direct jobs on dangerous equipment especially if the hands can come very close to the tools e.g. on band saws and rotary machines.

- Wait for the machine in motion to reach the set running speed before working.
- Wait for the machine to stop completely before setting the speeds, changing tools, making adjustments or unloading parts from the chuck or jigs.
- Do not leave a machine unattended. Switch off the machine before attending to any other job/s.
- Do not talk to or disturb an operator while he is working. Signal him and wait until the machine is at a stand still before discussing with him.
- Do not attempt to stop or slow down a machine with your hands.
- Do not go near running belts of machine components.
- Do not enter excavation sites or the trenches that smell of obnoxious gas.
- Do not work and operate machines in poorly lit conditions.

Safety for ladder

- Make sure the ladder is suited for the type of job you plan to do.
- Before using a ladder, especially a ladder that has been stored in the garage for a while, inspect it for cracks or broken joints.
- Place your ladder on a stable, even, flat surface. Never place a ladder on top of another object.
- The 1:4 ratios to ensure a stable working platform. Place the base of the ladder 1 foot away of whatever it leans against for every 4 feet of height to the point where the ladder contacts at the top (see graphic).
- When using an A-frame stepladder, make sure the brace is locked in place.
- If climbing onto another surface, make sure the ladder extends at least three feet past the platform you're climbing onto.
- Secure tall ladders by lashing or fastening the ladder to prevent movement.
- Always face the ladder when climbing or descending.

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- Keep both feet on the ladder - never put one foot on a rung and the other foot on a different surface.
 - Do not climb higher than the second rung on stepladders or the third rung on straight or extension ladders.
 - Never stand on the top or the paint shelf of a stepladder.
 - Keep your belt buckle (if you have one) positioned between the rungs so it doesn't catch.
 - Do not use metal ladders around electrical lines.
 - Avoid using ladders near doorways or places where persons pass through frequently. If there is no alternative position, clearly indicate the position of the ladder to prevent head injuries
 - Do not use badly constructed ladder.
 - Place the ladder on hard and level ground. Do not stand the ladder on loose materials
 - While climbing ladders, use both hands.
-



The 1:4 ratio diagram

Safety for tools

- Keep each tool in its proper place and within easy reach.
- Do not leave any tools on the rotating parts before starting the machines.
- Do not place too many tools on the worktable of the machines.
- Do not place tools on vibrating surfaces or parts of the machines.
- Do not use tools with mushroom heads or damaged handles.
- Do not use files or other similar tools without a handle.
- Use tools which are in good conditions and for the purpose to which they are designed.
- Do not overload a tool or apply larger than the maximum allowable force or torque

Safety in working at heights

- Do not work at heights if feeling weak or dizzy.
- Do not overreach while working at heights.
- While using ladder, have somebody to hold the ladder at the bottom or tie or lash it at the top.
- Carry tools in a proper bag or have them handled up while climbing ladders.
- Ensure that the scaffold used for working at heights is secured, and a safe means of access to and from is maintained.
- Use appropriate safety devices.

Safety on falling objects

- Wear approved head and foot protection.
- Do not create falling objects for others.
- Do not stand below potential falling objects.
- Place weights gently on hangers and do not overload hangers.
- Use the appropriate weights for the size of the hangers used.
- During experiments, place a suitable box with soft material to collect any falling weights.
- Use toe boards with guardrails.
- Be certain that material being welded, cut or machined is secured from falling.
- Do not place objects near the edge of overhead structures.

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- Do not place objects on vibrating surfaces unless they are properly secured.
 - Place a safety net in areas where there is a risk of objects falling.
 - Clearly identify areas where there is a risk of falling objects with appropriate signs.
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Accident and safety

Accidents may occur any time. The failure of people, equipment, supplies, or surroundings to behave or react as expected causes most of the accidents. Accident investigations determine how and why these failures occur. By using the information gained through an investigation, a similar, or perhaps more disastrous, accident may be prevented. It is important to conduct accident investigations with prevention in mind.

The accident investigation report will include information required to determine the basic causes of the accident by asking the questions who, what, where, when, and how. Corrective action to be taken and/or recommended to prevent a recurrence of a similar accident will be implemented. Complex accidents may require technical assistance to ensure an accurate investigation; however, the injured employee's supervisor should be included on the investigation team.

The accident investigation report shall include information on the injured person, his or her job, what happened, basic causes, corrective actions required, the time frame to make corrections, and who will be responsible for seeing that corrections are implemented.

ACCIDENT REPORT

Unit: _____

Name of staff completing report: _____

Date and time of accident: _____

Location of the accident: _____

Person(s) involved in the accident: _____

Description of the accident: _____

Causes of the accident: _____

Immediate action in responding to the emergency: _____

Action taken (or required) to prevent such incidents in the future:

Witnesses to the incident: _____

Date/time of report Signature: _____

Employee and safety

Each level of management shall, so far as is reasonably practicable, provide and maintain:

- Company equipment and systems of work that are safe & without risks to health.
- Adequate arrangements for ensuring the absence of risk to health in the handling, storage and transport of articles and substances.
- Sufficient information, instructions, training and supervision to ensure all employees avoid hazards and contribute positively to their health and safety at work.
- A safe place of work without risk to health and means of access and egress that are safe and without risks.
- A working environment that is safe and without risk to health.
- Adequate facilities and arrangements for the welfare of employees at work.

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- Handling of heavy and / or special equipment by authorized personnel only.
 - Every employee shall take reasonable care of his / her own health and safety and that of all other people who may be affected by his / her acts of omissions at work, and shall report to his / her HOD all defects and safety hazards in the workplace.

As an employee, you have also some specific duties. These include:

- Taking care of own health and safety and that of others who may be affected by what we do or do not do.
- Cooperating with management on health and safety.
- Not interfering with or misusing anything provided for our health, safety and welfare.

If there is a health and safety problem in the workplace, it should be first discussed with the immediate superior. One may also discuss any concern relating to health and safety with the HR department.

Training and awareness

Organising and imparting training and creating awareness on safety is to be undertaken periodically by the concerned in-charges of the respective branches. Awareness is the key to the door to safety. Safety drills at least twice a year is necessary and to be ensured. Any new entrant especially in the lab and field should be trained and made aware of the safety procedure. It is of utmost importance that safety precautions and equipments are used by all concerned.

Fire extinguisher maintenance

Inspect extinguishers at least once a month. It is common to find units that are missing, damaged, or used. Consider contracting for such a service. Contract for annual maintenance with a qualified service agency. Never attempt to make repairs to extinguishers. This is the chief cause of dangerous shell ruptures.

First aid kit

There shall be at every work place and maintained, so as to be readily accessible during all working hours **First aid** boxes to be provided with medicine, banded, antiseptic cream etc. The number of such boxes to be provided and maintained shall not be less than one for every one hundred workers.

Each **First aid** box shall be kept in the charge of separate responsible persons.

A First aid box should contain:

• Sterile adhesive bandages in assorted sizes	• Small roll of absorbent gauze
• Adhesive tape	• Triangular and roller bandages
• Latex gloves (2 pair)	• Tweezers
• Clean and dry cloth pieces	• Antiseptic
• Thermometer	• Cotton
• Band aids	• Scissor
• Tube of petroleum jelly or other lubricant	• Cleansing agent
• Aspirin or paracetamol	• Antacid





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01.09.09