



FAUJI FERTILIZER COMPANY LTD

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SAFETY HAND BOOK

Foreword

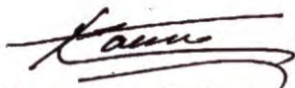
Occupation Health, Safety, Environment and Quality are of prime importance in the success of any organization. By virtue of their importance, these aspects are the corner stones of our priorities in the integrated Management System (IMS) of Fauji Fertilizer Company Limited, Mirpur Mathelo. We are committed to continual improvement in all aspects of Our Management Systems.

Fauji Fertilizer Company Limited is operating its production units by following the international standards of Occupational Health, Safety and Environment. Our OH&S management system covers all the hazardous and emergency situations within operating areas. We are operating our plants by implementing effective controls against all the occupational health, safety and environmental concerns.

Certainly, there are few rules / policies which are binding on each employee to prevent any unwanted situation. Awareness of these issues is very important for the safety of individuals and their groups.

Training, communication and involvement at all the levels of hierarchy are part of OH&S Management System. This booklet is developed for providing the critical information about our OH&S Management System.

Kindly familiarize yourself with the details to ensure the safety of yourself and your colleagues during routine & emergency situations within the company. I am thankful for your commitment and dedication for following the IMS standards at Fauji Fertilizer Company Limited, Mirpur Mathelo.

A handwritten signature in black ink, appearing to read 'Naeem', with a stylized flourish underneath.

Naeem-ur-Rehman
GM-M&O(MM)

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1. INTRODUCTION

This Safety Booklet has been compiled by the FFC Safety Unit for the use of all personnel working on the Company's Plant and equipment.

The booklet does not replace the detailed requirements, safety rules and regulations as laid down in the safety quality procedure manual. It is also not intended to cover all aspects of safe working throughout all operations. All personnel are to be given complete training in all safe working practices relevant to their work area by their Supervisor prior to commencing work.

As an integral part of the Safety Management Policy of the company, all employees and Contractors must comply with at all times when employed by FFC.



2. OCCUPATIONAL HEALTH & SAFETY (OH&S) MANAGEMENT POLICY

“We are committed for continual improvement in OH&S management and performance. We resolve to prevent ill health, incidents and injuries through compliance with applicable laws, standards, trainings, controls, feedback and corrective & preventive actions.”

To achieve objective envisaged in above mentioned plant policy, management spells out the plant safety & occupational health policy and expects all employees to follow.

1. The management shall always remain strongly committed to the cause of safety / health and will be a role model for all employees.
2. Each employee has a responsibility for his own safety / health and for the safety / health of others in the work place. He will follow defined rules, regulations and procedures
3. Safety & health shall be given highest priority in all activities.
4. Safety / health shall have a due consideration in performance appraisal of each employee. It is condition of employment and willful violation can lead to disciplinary action.
5. Management believes that God willing most incidents can be prevented since they are caused by human errors and omissions.
6. Incidents will be investigated on priority to determine root cause and stop recurrence.
7. The company shall provide required safety training and infrastructure to all employees.
8. Risk will be evaluated at all levels and required personal protective equipment shall be provided to employees. Full compliance shall be expected from employees.
9. The contractors shall also follow Company's safety & health discipline.
10. Off-The-Job safety shall be promoted among employees and their families.
11. Employees are expected to maintain a good standard of housekeeping, pollution free environment and hygienic conditions throughout the plant.
12. All resources (electricity, water, gas, heat etc) shall be conserved and used judiciously.

General Manager Plant

3. PLANT SAFETY RULES & REGULATIONS

All operating areas of the plant are hazardous, because of the fluids handled and the kind of operations involved. Therefore following rules & regulations are approved for compliance:

1. Smoking is not allowed in the operating areas except in the offices and smoking cabins (where provided) or designated areas.
2. It is forbidden to carry out any repair/maintenance without a valid work permit.
3. Wearing of safety shoes for company employees in operating areas are mandatory.
4. Use of safety helmet, glasses & escape mask is mandatory in operating areas except where exempted.
5. It is mandatory to wear hearing protection in identified high noise areas.
6. Use special personal protective equipment where required.
7. Observe safety procedures/regulations as prescribed or advised for accomplishing all jobs at the plant.
8. All accidents, near misses and injuries on the job should be reported to immediate supervisor and safety unit immediately.
9. It is forbidden to remove or modify safety locks and protection devices without authorization.
10. Visitors are not allowed to enter the operating areas unless approved by competent authority and guided.
11. Vehicle entry in operating areas is forbidden except under a valid permit.
12. Observe traffic rules.
13. All hazardous and unsafe conditions should be rectified by the areas themselves; safety unit has an audit and advisory function.
14. All modifications on procedures, equipments and controls must be approved.
15. Safety of contracted out man power is the responsibility of job initiator.
16. Parking of private vehicles is not allowed near operating areas.

4. SAFETY INDUCTIONS:

4.1 Residents

On induction at plant site, all personnel shall attend Safety Induction course. Managers/DMs/AMs are responsible for arranging safety inductions for all personnel under their control DM/AM Safety should be informed at least 24 hours prior to the induction to the site.

4.2 Visitors

Until the above inductions have been completed, all personnel will be regarded as visitors and treated accordingly.

A visitor is a person who is not normally a resident of FFC-MM, will be accompanied throughout his visit to the plant site by FFC resident who will be responsible for the visitors safety and conduct.

All visitors shall be in possession of a valid company card/ security visit slip as appropriate for their visit.

The person to accompany the visitors should inform 24hrs before visit to safety, for visitors induction training.

5. GENERAL REGULATIONS

5.1 Security Cards

All personnel must be in possession of a valid security company card. These cards must be carried at all times.

5.2 Work Permits

No work activity may commence, within the operating areas prior to obtaining a relevant work permit (s).

The type of work permits are:-

1. **Hot Work Permit** - required for work that can produce heat, high temperatures or sparks, grinding and disc-cutting of metal, flame cutting, Plasma arc cutting, Welding, brazing, soldering, power driven tools, generators, compressors and all powered mobile plant etc.
2. **Cold Work Permit** - required for any work which does not include the use of a local source of ignition, painting and Scaffolding etc.
3. **Confined Space Permits** - required for entry into any vessel, column, sewer, pipeline, pit, sump or excavation more than 1.3 meters deep. **A CONFINED SPACE ENTRY PERMIT IS NOT A PERMIT TO WORK**

4. **Civil & Excavation Permit** - is required before any excavation is started or any post or spike is driven into the ground. This will normally be accompanied by the appropriated permits(s) such as Hot Work, Cold Work and / or Confined Space Entry permit.
5. **Vehicle Permit** - required for entry of any vehicle or mobile plant into in-plant restricted areas. All mobile plant when use , must have a standby man position who is capable of shutting down the equipment in the event of an emergency.
6. **Electrical Permit** - an electrical isolation must be obtained prior to working / issuing of electrical permits.
7. **Instrument Permit**
8. **Radiography Permit**

5.3 Marshalling Points

In the event of a heavy fire or gas leak, disaster siren will be sounded. All personnel will go directly to their nearest/ designated Marshalling Points, (across wind) and await further instructions or until all clear is sounded.

6. SMOKING

Smoking is forbidden in operating areas except in the designated smoking areas and offices.
The carrying of matches or lighters in operating areas is **strictly forbidden**.



7. ELECTRICAL EQUIPMENT

Non-approved electric torches and other battery equipment (i.e. not flame proof or intrinsically safe) such as portable transistor radios, tape recorders, and mobile phones are strictly forbidden in the operating areas.
Before any electrical equipment can be used in the operating area, it must be inspected & approved by the FFC Electrical Engineer.

8. CAMERAS

The unauthorized use of cameras is forbidden. Only nominated and authorized at plant site persons, may take photographs for company purposes only.

9. TRAFFIC REGULATIONS

All drivers must be in possession of a driving license issued by the Government of Pakistan and be holding driving permit.

The **speed limit** for all roads is 35 km/hr otherwise indicated. The speed limits are clearly sign posted, all drivers must comply with the stipulated limits.

**10. REPORTING OF ACCIDENTS AND INCIDENTS**

All accidents and incidents must be reported immediately to the responsible supervisor who will take the following actions as appropriate:-

- Arrange medical attention for the injured.
- Rectify unsafe conditions.
- Report the event to the DM / AM Safety.

The authority responsible for the area where the event occurred shall initiate the report except for accidents causing injury only, in which case the supervisor of the injured is responsible for the investigation and reporting.

11. DANGEROUS OCCURRENCES/NEAR MISSES

Whenever an incident occurs which does not cause injury to personnel or damage to plant but could have, report the incident to your Supervisor immediately.

By reporting all incidents, it may be possible to prevent a similar occurrence which could result in an accident.

11.1 Hazard Awareness

If at anytime, a person considers that there is an unreasonable hazard existing in the task to be performed, they must immediately report the fact to their Supervisor, who will resolve the problem, if possible and / or report to safety. Under no circumstances must an employee or contractor endanger themselves, or other personnel.



**Always Report
Unsafe Conditions**

12. EMERGENCY PROCEDURES (Siren)

12.1 Plant Site

On the sounding of siren, all personnel other than those directly involved in the emergency, will take the following actions:-

- Stop all work and shutdown all mobile equipment.
- Advise and give assistance to personnel working in confined spaces.
- Proceed across wind to the nearest safe Marshalling Point.
- Await further instruction.

Drivers of all vehicles in the Plant area must stop their vehicle at the side of the road and leave the ignition key in the vehicle so that it can be moved by the Emergency Services, if required.

12.2 Residential Area:

When the sirens are activated, all personnel in the residential areas should follow instructions already circulated.

12.3 Fire Drill Siren:

It is sounded on every Wednesday at 15:00 hrs.

- No action is required (do not go to a Marshalling point)



13. CONTRACTORS

The Contractor shall ensure that all his employees understand their obligations and comply with the fire & safety management system, the Safety Regulations detailed in safety Quality Procedure Manual and any relevant contractor documents.

The Contractor will also be responsible for controlling the behavior of his personnel and must control their movements to and from the work site.

4.

13.1 Liaison with FFC on Site.

All Contractors will communicate with FFC Planning & Scheduling unit who will be responsible for all communication between FFC and the contractor.

13.2 Electrical Equipment

All Electrical tools and equipment, including hand lamps, must operate at 110 volts or less and must be approved by FFC Electrical Engineer prior to being taken on site. All electrical equipment not flame proof or non-intrinsically safe that will be used in the FFC operating area will be operated under Hot Work Permit conditions.

13.3 Construction and Lifting Equipment

All construction and lifting equipment, including ladders, ropes and chains, must be of sound construction, and suitable for the work in-hand. The equipment and, where required, the test certificates, must be available for inspection by FFC representatives. Scaffolding must be soundly constructed to the standards.

5. **13.4 Workplace Safety Talks**

Short safety talks must be held by the Contractor weekly. They should cover selected safety topics, new work activities, review of any accidents or unsafe acts that may have happened since the last meeting and other useful items of safety and occupational health.

Personal protective equipment (PPE) must not be regarded as a substitute for safe working practices. Minimum personal protective equipment is as follow.

- Safety Helmet
- Safety boot/shoes
- Escape respirator (Half Face Mask)
- Ear protection (designated areas)
- Safety Spectacles.

The correct use, care and regular cleaning of the above equipment is the responsibility of each individual

14.1 Head Protection

Safety helmets are intended to protect the person against impact and penetration damage and are so designed that they will not fracture when struck, or transfer the force of the blow to the wearer's skull below the point of impact.



Caution

Any unauthorized alternations to helmets including drilling of holes or painting, will compromise the protection of the helmet and therefore are not permitted.

14.2 Eye and Face Protection

Clear safety spectacles/ eye shields are to be worn at all times in operating areas as a minimum requirement.

Safety spectacles/ eye shields are only adequate for relatively low energy projectile e.g metal swarf.

Goggles and face shields/ visors are designed to protect the wearer from hazards such as high energy impact, exposure to dust or splashing of toxic/ corrosive substances.

Select the correct protection for the work to be carried out.

14.3 Noise

The exposure to high levels of noise can seriously damage the hearing and subsequently lead to permanent deafness.

Hearing protection is provided by FFC for its employees. Two types of protection are provided, ear muffs and ear plugs. When correctly used, both types offer sufficient protection against the noise levels normally encountered in FFC. No other type of hearing protection is acceptable.

14.4 Chemical Protection

When handling any corrosive or toxic chemicals, only use the correct designated chemical clothing and equipment designed to prevent contact with the skin.

Where relatively low concentration of toxic gases or vapours are present, specific respirator must be used.

When exposed to large amounts of gases or vapours, breathing apparatus must be worn.

Only trained and competent personnel must attempt to handle toxic materials.

14.5 Breathing Apparatus

All personnel employed on any work which require the use of breathing apparatus shall be trained in the correct use and care of the equipment. Under absolutely no circumstances shall anyone wear breathing apparatus without training.

Breathing Apparatus is designed to provide an effective seal between the facemask & the wearer's face when the personnel is preferably clean shaven. Personnel with heavy facial hair will be unable to obtain a satisfactory

face seat, preventing the apparatus from functioning correctly and subjecting the wearer to a greater risk of potential fatal accident.

**DON'T BE A TARGET FOR AN ACCIDENT,
WEAR PROTECTIVE EQUIPMENT**

15. HAND TOOLS AND POWER TOOLS

All personnel using hand or power tools shall be adequately trained and be made aware of any dangers which may arise during their use. Adequate supervision must be provided to ensure that the use of such tools is correct and safely performed.

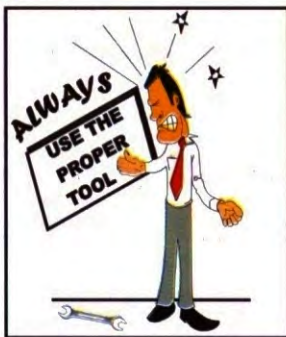
15.1 Hand Tools

Hand tools are among the simplest of our work aids and the hazards associated with them are simple and well understood. Because of this simplicity, the safety precautions associated with them are often ignored or forgotten.

The main cause of injury is the general misuse of tools, the use of unsuitable or poorly maintained tools and improper storage. Injuries can of course be caused by breakage. It is therefore essential that only tools manufactured from the best materials; by reputable tool companies are used.

Misuse of tools causes many problems, the use of screwdrivers as chisels, spanners to hammer nails, and pliers to screw up or unscrew nuts are prime examples of this common misuse.

When working at elevated locations, all tools should be placed in a container to prevent loose tools being dropped from heights. When there is a risk of injury from flying objects such as striking two hard surfaces together. e.g hammer, chisel, punch or similar articles, impact resistant eye protection must be worn.



Hammer

The faces of hammer should be kept clean and free from grease and be of sound condition (not pitted or broken edged) and in good shape (not mushroomed.)

Wooden shafts must be of the correct size and securely fixed to the hammer head with fitting wedges. They must be kept free from oil and grease and undamaged. Cracked or split shafts must not be used.

Chisels and Punches

There are several types of cold chisels and punches; these must be of good quality material, and properly maintained and inspected, especially for mushrooming of the head. All chisels and punches should be dressed frequently to maintain a safe profile.

Cutting edges should be kept sharp to permit accurate working and to avoid the hazards arising from unnecessary hammer striking.

Files

A file must never be used without a correctly fitting handle, to prevent the tang from causing injury to the hand.

Oil must never be applied to files; they must never be struck by other tools as they are brittle and will shatter.

To maintain files when clogged with filings clean out the teeth with a file card or a fine wire brush.

Screwdrivers

Screwdrivers are probably the most common and abused of all the hand tools. When using a screwdriver, make sure that the blade fits the slot in the screw properly. Too large or too small a blade will damage the screw, and not work efficiently. Screw driver blades must be kept square and have an even taper to the end.

The shanks are not designed to withstand twisting strain from pliers or grips, which are often mistakenly applied to obtain additional leverage on a stubborn screw. Never expose the blade to excessive heat as this may alter the temper of the steel making it too soft or too brittle for the job.

Do not use screwdrivers as scrapers, chisels or levers, and the handles may split if hammered. Serious puncture wounds can be sustained as the result of carrying screwdrivers in the pocket of clothing or coveralls.

Hacksaws

When using hacksaws, select the correct blades for the work to be carried out. Thick materials require coarse blades to allow chippings to escape. Thin hard materials require a fine blade. Always ensure that at least three consecutive teeth are in contact with the work.

The blade should always be correctly tensioned in the frame, taut but not over tensioned. Use a steady, forward cutting stroke with just sufficient pressure to cut through the material.

After use when the hacksaw is to be stored, the tension on the blade should be released and re-tensioned before future use.

Spanners and wrenches

Always select a spanner which exactly fits the nut or bolt head, never use packing pieces to make the spanner fit as they may slip, causing injury and also damage the hexagonal contour of the nut or bolt head.

Open-ended spanners should not be tilted. Ring spanners are probably the strongest if they can be used in a particular situation, less chance of slipping.

Pieces of pipe or similar device must not be placed over the end of spanners as extension to increase the torque.

When using adjustable wrenches, fit tightly against the faces of the nut or bolt head and apply the torque in the direction of the fixed jaw to prevent the spanner from opening.

Pipe wrenches are used for heavier work associated with pipe work and fittings, use with care as the serrated jaws can damage the work surface. Always pull on a wrench handle and adjust stance to prevent a fall should the tool slip.

Never attempt to hammer a spanner or wrench, only spanners with a striking face should be struck with a hammer. When using these types of spanners a second person should hold the spanner secure on the nut by keeping tension on a small rope attached to the spanner shank.

Spanners and wrenches should not be exposed to excessive heat, or be ground in order to alter their shape as this may run the temper of the working parts.

Periodically inspect all spanner and wrenches for any signs of damage or wear. All worn or damaged tools should be discarded or where necessary, moving parts replaced.



**Look
Them
Over**

Use Only **SAFE TOOLS**

15.2 Powered portable Tools

The efficient and safe use of all powered tools can come only through correct training, proper maintenance and from adequate supervision. The power from this type of equipment is usually supplied from:-

- Compressed Air or
- Electricity

When deciding on which type of power source to use you must also consider, the use of electrical tools in confined spaces, or the excessive noise from pneumatic equipment.

Pneumatic Tools

All compressed air hoses must have standard hose couplings and lock-pins fitted. Never use jubilee clamps or similar fittings. Before connecting the hose to any pneumatic tool, the hose should be blown clear of any moisture or foreign material.

Tools require clean air and correct lubrication, therefore, in every air line; there should be an efficient filter and lubricator. Oil mist from the tools exhaust can cause offensive if not dangerous atmospheres in confined spaces. Good ventilation is essential in such cases.

On all pneumatic impact tools, safety clips or retainers shall be securely installed to prevent attachments from being accidentally expelled. Only manufacturers locking arrangements are acceptable, never use pieces of wire for this purpose.

To prevent hand or finger injury, rear nut lock spanners must be located against the work piece to prevent movement, when the wrench is operated.

Electrical Tools

All electrically operated hand tools must be designed to operated at 110 volts and the supply to the equipment shall not be more than 55 volts above earth potential when used in an "on site" situation.

Portable electric power tools must not be used if any defect is suspected or any damage apparent. Repair and routine maintenance shall only be carried out by trained and qualified electricians.

All 110 volts plugs and sockets shall be of an approved type and well maintained. Any visible damage to the plug, socket or flexible cable must be repaired or changed prior to use.

Only chuck keys of the correct type shall be used to operate chucks. Operators shall ensure that the key is removed from the chuck before operating the equipment and ideally, clipped to the cable to avoid improvisation.

All electrical equipment must be approved and certificated by FFC Electrical Engineer prior to being taken into the plant Area.

Powered Disc Grinders

Powered disc grinders can be air or electrically driven. General operation applies equally to both types.

The security of the disc and condition must be checked before attempting to use. Care must be taken to avoid kinking or sudden impact of the disc to prevent damage and possible disintegration of the disc.

Discs that are chipped, out of true or out of adjustment must never be used. Apply the disc to the work piece and do not use excessive pressure. Allow the disc to come to a stop before laying the grinder down. Impact eye protection must be worn.

Only competent and trained personnel are allowed to change discs.

Sparks from- the disc may ignite flammable material, or cause injury to personnel in the area- Use Screens.



15.3 Grinding Machines

Because of the severe injuries that can arise due to mishandling, incorrect mounting, assembly or use, only adequately trained personnel must use these machines.

Ensure that the safety guards are in place before starting work and the work piece/ tool rest is as close as practicable to the wheel. All personnel must wear impact resistant goggles or face shields before use.

After switching on, allow the wheel to reach its designed speed before use, then apply the work gradually to the wheel. Never force it against the wheel as it may cause the wheel to burst.

All maintenance, dressing and grinding wheel changing will only be carried out by competent personnel specifically trained for these duties and appointed by their Supervisor.

15.4 Compressed Air

Extreme caution must be taken when using compressed air, as it is delivered at high pressure. If it enters the body, it can rupture internal organs and cause serious injury and even death.

Do not attempt to clean off coveralls or clothing as it can force harmful particles through the skin.

16. WELDING AND CUTTING OPERATIONS

All welding and cutting operations must be carried out by qualified personnel and in accordance with the conditions of the work permit system.

The principal hazards associated with welding and cutting operations are fires, explosions, burns, eye damage, heat stress, respiratory disease and systemic poisoning. Additional hazards which may result from arc welding are electric shock, ultraviolet radiation and ozone gas.

Whenever, welding or cutting operations are being carried out, flammable materials should be removed from the area, wherever possible, or covered with a wetted fire retardant blanket.

The area must be fully screened by non-reflecting fire retardant material to contain the hot material from welding or cutting. When working on elevated levels, particular attention must be given to the area immediately below the work area.

16.1 Electric Arc Welding

Check equipment thoroughly, all welding cables shall be fully insulated and periodically checked for cuts that could accidentally "short" when in contact with an earthed section of the structure. Do not lay cables in water.

When connecting cable lengths together, only approved correctly insulated connectors shall be used. All cables and connectors must be of adequate current carrying capacity to perform the task.

Avoid long lengths of cable and lay between wooden blocks, or cover to prevent a tripping hazard. Only electrode holders specifically designed and fully insulated and rated to handle the maximum current required by the task should be used.

Arc produces Ultra-violet (UV) radiation. Exposure of skin to UV radiation leads to redness and irritation. Eyes are very sensitive to UV radiation, the effect varying from temporary to permanent damage of the retina. All personnel working in close proximity to the welding area must wear anti flash glasses.

All welders must wear the appropriate protective clothing. Gauntlet type welding gloves, leather aprons, high topped boots of leggings and the correct shaded filter to suit the type of work.

16.2 Cutting Operations

Only proprietary fitting should be used on gas cutting equipment. Hoses must be fitted to the equipment using crimped fastenings, **not jubilee clamps**, which are prohibited by FFC. When checking for leaks, only "soapy water" must be used.

Flashback arresters must be fitted between the hose and the regulator and non-return valves fitted between the hose and the cutting equipment.

All cutting equipment must be removed from vessels or enclosed spaces when not in use for a period of time i.e. lunch breaks or over-night. This will prevent a buildup of gas, if there are any leaks. Where it is not possible to remove the equipment, the hoses must be **disconnected** at the cylinders. Cylinder must **never** be placed in vessels or enclosed spaces.

Do not attempt to "sweeten" the atmosphere inside an enclosed space with oxygen.

If the atmosphere becomes oxygen enriched due to leakage, the work area must be purged with fresh air and all clothing/flammable materials

must be well ventilated in the open air to prevent the risk of spontaneous combustion.

16.3 Gas Cylinders

Before use, all cylinders must be fixed and secured in an upright position and placed at a safe distance from any heat source.

Only standard valve keys shall be used and the valve opened slowly. When the cylinders are not in use the valves must be closed. Prior to fitting regulators, the valve should be opened slightly to blow away any dust or grit from the valve.

Warning

Oil and grease must be kept well away from oxygen regulator valves or fittings, to prevent spontaneous combustion in the presence of oxygen.

Cylinders should be kept and moved in purpose built trolleys. When attempting to move cylinders not mounted on trolleys, the regulators and hose must be detached.

If cylinders are to be lifted by crane, they should be secured in a special carrier. On no account should they be lifted by the valve as they are not designed to take the stress and no attempt must be made to lift them with chains. Ropes or slings as they may slip.

Oxygen cylinders and fuel gas cylinders must be stored well apart at least 6 meters in open space to prevent an explosive mixture forming from leakage. Also keep full cylinders separated from empty cylinders.

All fuel gases (Acetylene and LPG) whether full or empty, must be stored upright and never laid down.

Cylinders should be shielded from direct sunlight, or other heat sources to avoid the build up of excessive internal pressure.

17. WORKING AT HEIGHTS

A suitable means of access and egress must be provided for all working places which cannot be reached from ground level. All platform structures/scaffolding shall only be erected, altered or dismantled by competent and experienced workers under the immediate supervision of a scaffolding supervisor.

17.1 Working Platforms

The key points to be observed when erecting access platforms are:

- The ground must be firm enough to carry the weight of the scaffold and the load the scaffolding will be carrying.
- Where the scaffold is standing on made-up ground or refilled excavations, a **sole plate** is necessary to distribute the load over a greater area.
- **Standards** must be set on base plates and suitably spaced for the expended scaffold loading.
- Working platforms should be closely boarded, and have three or more supports under each board unless short and thick enough to prevent undue sagging.
- Hand rails and toe boards shall be fitted on the inside of the standards. When storing materials on the platform, additional toe- boards or brick guards must be used to prevent materials falling from the platform.
- The space between the edge of the platform and the building / structure should be as small as is practicable, and must not exceed 300mm. (12inches). Only steel scaffolding shall be used in the FFC plant Area, not Aluminum.

17.2 Ladders

The following points apply to all ladders of any length:

- They should be erected on a firm level base, supported by the stiles only, at an angle of approximately 75° i.e by the stiles only, at an angle of approximately 75° i.e. 1:4 ratio (300mm (12") out for every 1200mm (48") up).
- The ladder must be extended at least 1.05m(3'6") above the working platform step-off point unless there is separate handhold.
- The head of the ladder or step-off point, should be rested on a firm, solid surface and lashed or clamped (each stile) to a secure anchorage.
- Ensure that the space behind each rung is clear and provides a proper foothold, not blocked or obstructed, and is free from oil, grease or other slippery substances.
- Timber ladders must not be painted as paint could conceal any defects, coating with a preservative and clear varnish is permissible.
- Metal ladders or ladders with metal fittings or reinforcing must not be used near electrical equipment with exposed live conductors.

- Personnel climbing ladders should face the ladder and use both hands for climbing. Tools and materials should not be carried up or down ladders, use a tool belt or hoist line.

Note: only one person is permitted on a ladder at any one time.



17.3 Safety Harness/ Belt

When is necessary to work outside the protection provided by safety barriers at a height, a safety harness/belt shall be worn?

In all instances where a safety harness/belt is used, the safety line shall be anchored in such a way that the length is minimized and there is no possibility of the protected person falling with a pendulum effect.

18. BARRIERS

Barriers either structural, roped or flagged may be employed to warn personnel and limit access to the worksite, together with appropriated signs at all approaches to the risk area.

All excavations must be protected by temporary barriers at all times-except when moved for access.

Excavations over 2m deep must be protected by substantial rigid barriers, not tape or rope.

Barriers must not obstruct established escape routes.

Personnel may only bypass a barrier if they are authorized to do so.

During the hours of darkness, the working area must be clearly illuminated or have sufficient amber warning lights correctly positioned.

19. RADIOACTIVE SOURCE

Radioactive sources are used by FFC for radiographic inspection.

Unauthorized personnel must not interfere with any radioactive sources, and under no circumstances attempt to enter the radiation barriers.

Personnel wishing to enter the area, to perform a task or collect items, must contact the radiographer outside of the barriers and awaits his instructions.

To Summaries:

- Observe all radiation signs and barriers.
- Remain outside barriers at all times.
- Wait until the barriers and signs are removed before re-entering the workplace.
- Ensure that you are not working above or below a radiation zone.
- Disciplinary action will be taken against any person crossing a barrier without specific permission.



20. MANUAL HANDLING

Manual handling is a process where person is the prime source of power in moving materials and equipment. It includes lifting, pulling, pushing, carrying or moving.

Correct manual lifting and handling can help prevent strains and backaches. Once your back has been injured, that weakness can remain with you for the rest of your life. Maximum weight a person can handle easily is 25kg.

To avoid injury, follow these guidelines:

- **Assess the weight** of the load, get help if it is beyond capacity, or use mechanical or hydraulic lifting equipment.
- **Size up the job** make sure you have a clear pathway to where the load is going. Look for nails or splinters and wear gloves where appropriate.
- **Adopt the correct stance** stand close to the object with your feet apart, giving a balanced position. One foot in advance of the other, pointing in the direction you intend to move.
- **Bend you knees** to a bend position, keeping your chin tucked in and your back straight(not necessarily vertical)

- **Take a firm grip** with the palm and roots of the fingers and thumb, keeping your arms as close to the body as possible. Keep your shoulders level and face the direction of travel.
- **Lift with your leg muscles**, not back muscles. Carryout to lifting movements smoothly, do not jerk or twist.
- **Utilize body weight** to create momentum and move forwards with the load.

Use the reverse procedure when setting down the load.



21. LIFTING OPERATIONS

Mechanical aids such as cranes, winches, hoists or other lifting devices are in general use within FFC.

Lifting must, by its very nature, be regarded as a hazardous operation. The severe usage to which lifting gear is often subjected, together with the serious consequences to life and property which may result from any failure, make it important that maximum attention be paid to the correct use and maintenance of such gear.

Operational Guidelines are:

- Only authorized, competent persons may operate cranes.
- Crane drivers must only take instructions from designated Backs-man.
- At no time should the crane be left unattended, even for short periods, unless all loads have been removed, the engine shutdown and brakes applied.
- Crane movement within FFC Operating Area must be accompanied by a Backs-man who will guide the crane under pipe racks through the congested areas.
- Do not use rigging and slinging equipment unless you have been trained and instructed to do so.
- Use only properly tested and color coded lifting gear of adequate strength for the job.
- Use correct lifting hooks fitted with safety catches or shaped to prevent accidental displacement of the slings.

- Position the lifting hooks over the load so as to prevent the load swinging when it is raised.
- Do not tie a knot in a chain to make it short, or attempt to drag it from under a load.
- Check wire ropes for kinks, signs of wear and broken wires.
- All lifting equipment must have valid test certificates and be available for inspection by FFC designated personnel.

22. CONFINED SPACES

The term "confined spaces" covers a great variety of workplaces which have limited access and inadequate ventilation. They are therefore potentially dangerous places in which to work because they may trap hazardous concentrations of toxic or flammable gases or vapors.

Confined spaces are also liable to become deficient in oxygen due to the build-up of a gas or vapor, which is not in itself toxic, but which displaces the breathable air.

Very often the dangerous atmosphere is a result of the work being done, for instance, welding, painting, and flame-cutting or the use of adhesives and solvents.

Before entering a confined space, follow the guidelines:

- Observe the safe system of work (permits) and do not enter without an Entry permit.
- Ensure adequate ventilation prior to entry and constant circulation while personnel are inside.
- All personnel must be properly trained in the task that they are to perform.
- Constant monitoring by the standby person who will be fully equipped and trained for rescue purposes.
- Emergency evacuation practice drills must be carried out.
- The drill should ensure that all personnel have a sound working knowledge of the emergency communication system.
- Do not attempt to rescue anyone from a confined space unless you have been trained and fully equipped with breathing apparatus etc.

23. EXCAVATIONS

No excavation may be carried out without an excavation work permit.

In all excavations over 1.3 meters deep (4ft) where there is a risk of materials collapsing or falling, the sides of the excavation must be adequately supported (shored) or alternative approved methods used, for example battering (sloped) or benching (stepped). All excavations below 1.3m deep will also require an

Confined Space Entry permit. Excavations can be considered as a special case "Confined Space"

All excavation work must proceed with caution, if any buried pipelines or structures are unexpectedly encountered during excavation; work shall cease immediately and be reported to the area authority.

All shoring shall extend at least 300mm (12") above the top of the excavation.

Adequate means of exit from the excavation must be provided such as a ladder, sloping side or steps, and located so as to require no more than 7.6m (25ft) of lateral travel along the trench floor. Ladders must be of sound construction and project 1.05m above the excavation to provide a hand hold. They must be so to prevent slipping sideways.

All materials must be kept clear of the edge of the excavation by a minimum of 1 m. No load, plant or equipment should be placed or moved near the edge of any excavation where it is likely to cause the sides to collapse.

If any vehicle is required to tip materials into the excavation, stop blocks or anchorage must be provided and all personnel kept clear during the tipping operation.

The excavation and shoring, if used, must be subject to a daily inspection by a competent person of the executing agency before any personnel enter the excavation.

24. HANDLING CHEMICALS

The control and safe use of hazardous substances are crucial to the safe operation of any work place that handles, uses, stores, transports or disposes of them, regardless of the quantity involved. Although the hazards cannot be eliminated, the risk of harm occurring to personnel can be controlled.

The following general guidance is applicable to most chemical substance.

- Consult the materials Safety Data Sheets (MSDS) for the handling, storage, disposal and emergency actions before attempting to use any chemical substance.
- Read all warning labels on the container, under no circumstances should a product be used that cannot be identified.
- Ensure that all approved chemical containers are clearly labeled and sealed when not in use.
- Handling of chemicals must be restricted to personnel who have been trained in their safe use.
- Wear the recommended protective equipment.

- Eyewash stations and emergency showers must be located close to chemical handling areas. The appropriate neutralizing chemicals, hoses and containers must be on hand to deal with spills.
- The storage of chemicals must be restricted to designated areas. These areas must have the appropriate warning signs, good ventilation and the designated fire fighting equipment.

25. SLIPS, TRIPS AND FALLS

A large portion of injuries at work are caused by slips, trips and falls. Whether on the same level or from a height, falls can occur in all kinds of workplaces and under a range of different conditions.

Some of the common problems are:

- Poor flooring
- Unsuitable footwear
- Slippery surfaces
- Obstruction in walkways
- Poor lighting or restricted vision.
- Undue care and attention.



The biggest contribution you can make in preventing such accidents is by keeping your work area clean, tidy and free from obstructions.

Also:

- Use the proper routes and walkways. Avoid short cuts and make full use of handrails.
- Make sure that any temporary openings in walkways are securely fenced off. On completion of work, replace gratings and cover securely.
- Report damage or obstruction to floor surfaces, handrails and fencing, as well as inadequately illuminated areas.
- Do not have power tool leads crossing walkways, if unavoidable, tape them down.
- Correct use of ladders firm level surfaces, secured at the top and extended beyond the step-off point or adequate separate handhold.

26. HOUSEKEEPING

Good housekeeping is an important part of our safety programme; it is the responsibility of all personnel to maintain the highest possible standard of housekeeping in their work areas.

This can be maintained by:

- Ensuring that the work place is tidy before commencing any task and at the end of a work shift or completion of the task.

- Suitable, correctly marked, receptacles should be located in all work areas for solid and liquid waste materials. These should be emptied at regular intervals.
- All unnecessary tools and equipment should be removed from the work area and correctly stored, free from oil, grease and in a safe working condition.
- Floors must be kept clear of unnecessary materials, oil, grease and other slippery substances.
- All stairways, gangways, passages and door ways must be kept clear of obstruction. Hoses, wires and cables should never be left over walkways where personnel could trip over them. Electric cables must never be allowed to lay in water.
- Fire or emergency equipment should never be obstructed by stacking objects around in front of them. Fire doors should never be wedged open.
- Concentrations of dirt, dust or grease should not be allowed to accumulate on structures, shelves, ledges or machines in workshops or other buildings.

27. HEAT DISORDERS

27.1 Heat Exhaustion

This is a condition caused by loss of salt and water from the body.

Symptoms the casualty may, over a period of a few days complain of weakness, fatigue, headache and muscular cramps in the lower limbs or abdomen. The condition can be aggravated by a stomach upset with diarrhea and vomiting.

Treatment - remove the casualty to a cooler environment and replace the lost fluids and mineral. Seek medical aid immediately.

Prevention - To help prevent heat exhaustion, an increase in salt and water intake is required. Salt can normally be supplied by a well balanced diet or a lightly salted liquid. Fluids should be taken every 15-20 minutes.

27.2 Heat Stroke

Heat Stroke is caused by a very high environmental temperature or a feverish illness that leads to a greatly raised body temperature. It develops when the body can no longer control its temperature by sweating and can occur quite suddenly.

Symptoms - the casualty may complain of headache, dizziness and of feeling hot. Unconsciousness may develop rapidly and become very deep.

Treatment - remove the casualty to a cool environment and attempt to reduce their temperature as rapidly as possible. Seek medical aid immediately.

Prevention - to help reduce the possibility of a heat stroke work in a shaded area, whenever possible, and take regular breaks. Replenish water and salt used up by your body's cooling mechanisms.



28. SAFETY SIGNS

A Safety sign is one which gives a message about health and safety by means of a combination of geometric form, safety color and symbol or text (words, letters, numbers or both)

The use of a system of safety colors is to draw attention to object and situations which affect or could affect health or safety:

The four main safety color codes are:

Red	-	Prohibition	(Don't do)
Yellow	-	Warning	(Danger)
Blue	-	Mandatory	(Must do)
Green	-	Safe Condition	(The safe way)

Prohibition:

This indicates that a certain behavior is prohibited.

Warning

This gives warning of a hazard.

Mandatory

This indicates that a specific course of action is to be taken.

Safe Condition

This gives information about safe condition supplementary signs may be used in conjunction to provide additional information.

Examples

Prohibition



Warning



Mandatory



Safe Condition



29. FIRE

29.1 Introduction:

Combustion is a chemical reaction in which heat and light is evolved. For combustion to occur three factors are necessary: **Fuel, Oxygen** and a **source of ignition**. Combustion will continue as long as these three factors present. These are known as the “**fire elements**” and removal of any of the elements will prevent combustion.

Fire extinction, in principle consists in the limitation of one or more of the above elements.

29.2 Classification of Fires:

There are four main categories, based upon the fuel and the means of extinction. These are:

- Class A** - Fires which involve solid materials mainly an organic type such as paper, wood and cloth.
These are extinguished by cooling, by the use of water.
- Class B** - Fires which involve liquids or liquefiable solids such as Oil, petrol, paint or grease. These can be extinguished by dry powder and carbon dioxide (CO₂).
- Class C** - Fire which involve gases or liquefied gases such as Methane or butane. These can be extinguished by dry Chemical Powder and carbon dioxide (CO₂).
- Class D** - Fires which involve combustible metals such as Magnesium and sodium. Sand or similar substances and special dry powder extinguisher type should be used.

Electrical Fires

Which involve the electricity supply to live equipment can be dealt with by extinguishing agents such as dry powder and carbon dioxide. Electricity is a cause of fire not a category of fire.

DO NOT USE WATER ON ELECTRICAL FIRES.

Fire Class	Fire Extinguisher to be used			
	Water	Foam	CO ₂	Powder
Class A Wood Paper, Cloth	✓			✓
Class B Flammable Liquid			✓	✓
Class C Flammable Gases			✓	✓
Class D Combustible Metals	Use Sand or Special Dry Powder			
Electrical Hazards			✓	✓

29.3 Discovery of a Fire:

On discovering a fire, your prompt action could save lives:

- Break glass
- Inform Coordination Engr. / Safety Unit
- Identify location, the type of fire, and wind direction.
- If it can be extinguished immediately, select the correct extinguishing agent.
- Approach the fire from upwind to avoid inhaling gases produced by the fire.
- If the fire is not extinguished immediately, vacate the area closing all doors on your way out.
- Report to the assembly point.

(See also the Emergency Actions on the inside of the front cover page '2')

29.4 Fire Prevention

Prevention is the best form of defence. Fires can be prevented by following some simple rules:

- **Don't** let rubbish or items accumulate in one area, especially under stairs.

- **Don't** store items such as rags, newspapers or flammable liquids (paints, thinners or solvents) under or near a stairway or an escape route.
- **Don't** overload electrical outlet sockets by using a multi-adapter.
- **Don't** use make-shift wiring extensions.
- **Don't** throw cigarette butts into secluded places or wastepaper baskets.
- **Don't** smoke on the bed.

Remember: Firefighting equipment must not be tampered and must be kept clear of all obstructions.

30. SOLID WASTE MANAGEMENT

A waste is material which is discarded or intended to be discarded.

The management of FFC calls for a great degree of supervision to minimize it from operations. Principally a common methodology for a waste management programme covers.

- Elimination
- Source reduction
- Recycling / Recovery
- Reuse
- Treatment
- Disposal

30.1 Waste Identification and Classification

Wastes are classified into flammable or non-flammable form of solid, semi-solid liquid and gaseous.

30.2 Waste Segregation and Collection:



- **Non-Hazardous Waste Disposal Practice**
labeled and color coded drums are placed in strategic locations to collect different types of routinely produced non-hazardous waste. The labeled drums are emptied out by the Admin when they are full. The responsibility lies with the generator of the waste to ensure that all such wastes are deposited in the correct drum as per following:

Waste Type

Non-Combustible
Gray & White

Combustible
Yellow & White

The waste is ultimately sent to designated places for incineration or disposal / sale thru Materials Unit.



Fauji Fertilizer Company Limited
Plant Site Mirpur Mathelo



Mirpur Mathelo

INTEGRATED MANAGEMENT SYSTEM POLICIES

QUALITY POLICY

Quality Management System Iso 9001 : 2008

Fauji Fertilizer Company Limited is committed to attaining excellence in all areas of its operations.

We continue to strive for improvement through coordinated efforts, feedback, training and employee motivation.

We are determined to ensure customer satisfaction, Company's productivity & profitability, occupational health, safety and care for our environment and continue playing our role in the industrial and agricultural development of Pakistan.

* Rev-1/ Oct, 2004

ENVIRONMENT POLICY

Environmental Management System ISO 14001 : 2004

Fauji Fertilizer Company Limited is committed to achieve environmental protection through compliance with all the applicable laws and regulations.

An active pollution prevention program is followed with efforts for continual improvement in the environmental aspects related to plant operations.

OCCUPATIONAL HEALTH & SAFETY POLICY

Occupational Health & Safety Management System OHSAS 18001 : 2007

We are committed for continual improvement in OH&S management and performance.

We resolve to prevent ill health, incidents and injuries through compliance with applicable laws & standards, training , controls, feedback and corrective & preventive actions.

* Rev-1/ July, 2009

**Boy -
Do I Believe
In SAFETY
NOW!**





EMERGENCY TELEPHONE NUMBERS

23/3124

EMERGENCY ACTIONS:

Think of your own safety first, phone 23/3124

For

- ★ Fire
- ★ Accident
- ★ Gas Leak

Give

- ★ Location, extent, wind direction
- ★ Persons Injured
- ★ Any other useful information

Or, in the case of a fire, set off the break glass alarm

Coordination Engineer	24/3203
Fire Control	23/3124
Hospital	21/5131