WORK PERMIT

Establish Your Policy

- Emphasize the importance of a work permit (it’s easier to implement a policy when employees understand why it’s needed).
- Specify that a work permit will be needed for all high risk work activities.
- Identify the person or the team who will manage the process.

Identify Hazards, Assess Risk and Determine Needs

- Identify work activities requiring a work permit and the type of permit needed. One way is to do a job hazard analysis of all critical tasks.
- Review legislative requirements, codes and standards, and industry practices.
- Assess risks based on severity of hazards and number of people exposed.
- Prioritize work permit needs based on this assessment.
- Identify the resources needed to set up and maintain the system.

Implement a Plan to Address Identified Needs

- Develop and implement a strategy to successfully achieve the required control.
- Define responsibilities, accountabilities, timelines and milestones for the Work Permit system.

Develop Procedures

- Clearly identify the kinds of jobs requiring work permits.
- Explain how the permit system works, for example:
  - When to apply for a permit (how many hours before the work is started?)
  - Where to get a permit.
  - How to fill it out.
  - How many copies are needed.
  - Who gets copies.
  - Who must be informed of the work.
  - What to do with the permit when work is stopped or completed.
- Define responsibilities, for example:
  - Who fills out the form.
  - Who identifies hazards.
WORK PERMIT

- Who ensures precautions have been taken.
- Who is authorized to issue/revoke permits.
- Who supervises the work.
- Who ensures work is completed.

General Information to Include in Your Work Permit

- Exact work locations.
- Work to be done.
- Date and time the work is to start and end Hazards.
  Correct sequence of work procedures.
- Personal protective equipment required.
- Emergency equipment needed.
- Signature of authorized person(s).
- The precautions to be taken.
- Date and time the permit is issued.
- Preparatory requirements, such as testing, equipment and machinery
to be shut down/locked out, ventilation, etc.

Provide Training

- No matter how well designed your work permit system is, it will only succeed if your staff understand how to comply with it.
- Identify all employees who need training and the training content (See Training Program Content Guidelines for suggestions on what your training program should cover).
- Provide training, preferably as a group, to all possible users and staff involved in the system.

xxxxxxxxxxxxxxxxx
Safety Tips: Nitrogen Environment

- Nitrogen Gas should be vented to outdoors or to a system designated to safely receive nitrogen.
- Oxygen concentration should not drop below safe level in the premises where nitrogen is used.
- Ensure that all Nitrogen pipes are clearly labeled in the plant to avoid mix-up.
- Regularly inspect and do not use a leaky hose used in Nitrogen service.
- Measure oxygen concentration inside confined space before every entry.
- Make sure that the ventilation systems in the plant are in good health.

<table>
<thead>
<tr>
<th>% Oxygen</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.9</td>
<td>Normal</td>
</tr>
<tr>
<td>19.5</td>
<td>Minimum concentration required for Human Being</td>
</tr>
<tr>
<td>15-19.5</td>
<td>Circulatory problem : Decrease in ability to work</td>
</tr>
<tr>
<td>12-15</td>
<td>Increase in pulse rate and respiration</td>
</tr>
<tr>
<td>10-12</td>
<td>Raising in pulse &amp; respiration, giddiness</td>
</tr>
<tr>
<td>8-10</td>
<td>Unconsciousness</td>
</tr>
<tr>
<td>6-8</td>
<td>Exposure for 6 minutes :- 50% fatalities, if more than 8 minutes :- 100 fatalities</td>
</tr>
<tr>
<td>Less than 6</td>
<td>Coma in 40 Seconds &amp; death</td>
</tr>
</tbody>
</table>
**DOs**

1. Check that the hydro test date for cylinders is valid.
2. Store chlorine tonner/cylinder in a well ventilated and covered shed. Display MSDS.
3. Keep accessible space between tonner/ cylinder.
4. Use proper tools for handling of tonner/cylinder valve.
5. Check for leakage prior to taking into service.
6. Use breathing apparatus/chlorine canister at the time of chlorine leak check.
7. Display Emergency Procedure at a prominent place.
8. Store filled and empty tonners/cylinders separately.
9. Train and equip personnel for handling chlorine.
10. Regularly monitor for leaks or damage (corrosion).
13. Stay Upwind direction while chlorine loading.

**DON'Ts**

1. Don't use/ store tonners in wet and muddy area.
2. Don't allow trucks with leaky tonners in the factory.
3. Don't transport tonners without protective caps.
4. Don't leave work site while chlorine injection is done.
5. Don't store chlorine tonners/ cylinders along with hydrogen, sawdust, phosphorous, turpentine etc.
6. Don't stack Chlorine tonners above one-another.
7. Don't use oil or lubricant on cylinder valves.
8. Don't leave operational cylinder without Hood.
9. Don't use Chlorine Cylinder Valve to regulate flow.
10. Never lift the cylinder by its valve protection hood/ Safety Cap.
USE OF PORTABLE POWER TOOLS

**DOs**

1. Use only inspected and approved tools.
2. Select appropriate tool for each job.
3. When not in use switch off the supply.
4. Store tools at designated place.
5. Carry out periodical Preventive Maintenance.
6. Use electrical hand gloves of suited rating & proper PPEs.
7. While working at height secure the tool with rope/ cord.
8. Ensure proper earthing of all electrically operated tools.
9. Ensure Air Hose connected to pneumatic tool is secured.
10. Ensure power supply switch board with ELCB.
11. Ensure proper and fit electrical connections at both ends.
12. Ensure proper guard at the point of operation.
13. Hold grinders with open-end of guard away from body.
14. For grounded tools (3-pin plugs), use grounded outlets.

**DON'Ts**

1. Don't overload the tool. Don't force the tool.
2. Don't leave tools unsecured at height/ unsafe place.
3. Don't wear loose clothing while using power tool.
4. Don't extend the length of cable of power tool.
5. Don't insert bare wires to draw power supply.
6. Don't modify the plug connections in any way.
7. Don't allow untrained person to operate power tool.
8. Don't allow damaged plugs/ exposed terminals.
9. Don't use portable power tool in an area with LEL > 0%.
10. Don't use/ leave power tools in rain/ wet conditions.
11. Don't abuse the cord by pulling it/ lifting tool by cord.
12. Don't touch grounded surfaces while using power tools. There is a higher risk of electric shock.
13. Don't modify the tools against design/ with non-standard parts. Use properly rated parts, viz wheels.
**SAFETY WHILE GRINDING**

**DOs**

1. Inspect wheels for any visible flaws like cracks, etc.
2. Ensure use of electrically certified grinding machine.
3. Ensure rotation of wheel is downwards against job.
4. Ensure that job is secured in place after any adjustments.
5. Isolate the grinding machine electrically for fitting wheel.
6. Discard abrasive wheel after shelf life is over.
7. Run a wet wheel without load to dry before turning it off.
8. Ensure the wheel guard is secured in position.
9. Ensure the wheel guard opening is opposite to the body.
10. Use suitable goggles, face shields or other eye protection.
11. Allow wheel to reach full speed before grinding.
12. Ensure that the dust collecting system is operating.
13. Turn off the grinder after you have finished the work.
14. Use Ear Plugs/Muffs depending on the sound intensity.

**DON'Ts**

1. Never clean/make adjustments on a grinder in motion.
2. Don’t adjust job while the wheel is in motion.
3. Don’t force work against a cold wheel. Apply it gradually.
4. Don’t use a worn out wheel.
5. Don’t use a machine with damaged wiring cord and plug.
6. Don’t grind material for which the wheel is not designed.
7. Chipping or hacking on the wheels is prohibited.
8. Don’t change wheel to higher dia/speed (Peripheral Speed > Rated Speed)
9. Don’t hold the machine so that projectiles can hit you.
10. Don’t wear loose clothing, etc while grinding.
11. Don’t work on small materials that cannot be secured.
12. Don’t bring hand near rotating parts to avoid kick-back.
<table>
<thead>
<tr>
<th>FOR LPG APPLIANCES</th>
<th>WHILE RECEIVING CYLINDER</th>
<th>BEFORE USE</th>
<th>BEFORE USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Always use BIS-approved appliances from authentic sources</td>
<td>✓ Check that the cylinder has the company seal and safety cap intact</td>
<td>✓ Always keep the cylinder in upright position at ground level in a well ventilated place</td>
<td>✓ Keep the cylinder away from other sources of heat</td>
</tr>
<tr>
<td>✓ Obtain BIS-approved LPG regulators and Suraksha rubber tubes from authorized LPG distributors only</td>
<td>✓ If you are not sure about safe use of LPG, ask the delivery person for a demonstration</td>
<td>✓ Always keep the gas stove on a platform above the cylinder level</td>
<td>✓ Never keep kerosene or other stoves on the floor where an LPG cylinder is in use.</td>
</tr>
<tr>
<td>✓ Check that the cylinder valve to ensure that the rubber 'O' ring is present inside</td>
<td>✓ Retain safety cap with nylon thread attached to the cylinder. Fix the cap on to the valve to stop leak, if any</td>
<td>✓ Strike match first, then open burner knob</td>
<td>✓</td>
</tr>
<tr>
<td>✓ Use only soap solution to check gas leaks; never use lighted match-sticks for checking leaks</td>
<td>✓ Do not store inflammable material like rubber mats, coir, etc., inside the kitchen or above the stove.</td>
<td>✓ Always use cotton clothes and cotton apron while cooking;</td>
<td>✓</td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓ never use synthetic clothes like silk, chiffon, etc.</td>
<td>✓</td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓ Clothing is for wearing, not panhandling. Use only pot holders</td>
<td>✓</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>BEFORE USE</th>
<th>BEFORE USE</th>
<th>BEFORE USE</th>
<th>WHILE IN USE</th>
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<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</table>

<table>
<thead>
<tr>
<th>WHILE IN USE</th>
<th>AFTER USE</th>
<th>SERVICING</th>
<th>SERVICING</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Never leave vessels unattended on burners in operation - the contents may overflow, extinguishing the flame and causing gas leakage</td>
<td>✓ Turn &quot;off&quot; the regulator knob and then the stove knob before retiring to bed.</td>
<td>✓ Always keep rubber tube uncovered and visible</td>
<td>✓ Get your gas appliances serviced periodically</td>
</tr>
<tr>
<td>✓ Do not keep electrical appliances like refrigerators inside the kitchen; power fluctuations in them can act as a source of fire in case of leakage</td>
<td>✓ Always keep the regulator knob in 'off' position when the cylinder is not in use</td>
<td>✓ Check rubber tube regularly for cracks; change rubber tube at least once in two years</td>
<td>✓ Self-repair is unsafe. Call distributor's mechanic.</td>
</tr>
<tr>
<td>✓ Empty cylinders must be stored in a cool and well ventilated place with the safety cap put on</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IN CASE OF GAS LEAK</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Do not panic</td>
</tr>
<tr>
<td>✓ Close regulator and burner knobs</td>
</tr>
</tbody>
</table>
DO's
1. Select the right tools for every job.
2. Inspect tools periodically and weed out defective tools.
3. Store tools at its designated place. Use tool boxes.
4. Insulate all hand tools used for electrical work.
5. Always point tools with sharp-end away from body.
6. Mushroom-headed tools should be dressed before use.
7. Hold the nails to be hammered, near the head of nail.
8. Procure hand tools conforming to standard.
9. Use non-sparking tools in Hydrocarbon handling area.
10. Use relevant PPEs while handling tools.
11. Place the Hammer parallel to the surface being struck.
12. With a hardened bushing or similar object use only soft hammers
13. Pulling on a wrench/ spanner is safer than pushing.

DON'Ts
1. Don't misuse hand tools. Use them for the purpose designed.
2. Never use a tool without a good handle.
3. Don't place your hand near sharp-end of tool to avoid cuts.
4. Wrenches with sprung or cracked jaws should never be used.
5. Don't use a piece of pipe or a wrench for added leverage.
6. Don't use a tester for testing high voltage lines/equipment.
7. Don't hold the job in hand while applying screwdriver.
8. Never apply hammer on the handle of the screw driver.
9. Don't use a tool which is oily or greasy.
10. Don't use hacksaw blade with twisted teeth.
11. Don't forgo wearing of PPEs. Don't take-off Gloves for comfort!
DO's

1. A Competent Person must confirm safety for first entry.
2. Drain, Wash, Dry and Purge for enough time to ensure safe atmosphere inside.
3. Positively Isolate by blinding or disconnection of pipeline.
4. Purge confined space and ensure continuous ventilation.
5. Keep all manholes open and the lowest drain point open.
6. Check & Monitor LEL%, O₂ Toxic, Asphyxiating Gas levels.
7. Keep a stand-by personnel outside each open manhole
8. Ensure communication with stand by person always.
9. When entering a tank use a safety belt and lifeline, with the free end held by the stand-by person.
10. Keep record of persons entering and leaving Confined Space
11. Put up a danger tag as “Confined Space”.
12. Use SCBA, if Oxygen concentration is less than 19.5%

DON'Ts

1. Don’t enter Confined Space without Entry Permit (CSEP)
2. Don’t work without supervision in a confined space.
3. Don’t work if you are medically unfit.
4. Don’t enter confined space with O₂% < 19.5; or > 22.5
5. Don’t rely on closed valves without blind for isolation.
6. Don’t use supply of voltage more than 24 V for lighting.
7. Don’t take chemicals more than needed into tank.
8. Don’t take gas cylinders inside confined space.
9. Don’t leave man-holes (not used) open without barrication and caution boards.
**DO’S**

1. Do determine if your waste is hazardous: Is it an Ignitable, Corrosive, Reactive or Toxic?.
2. Do select a chemical waste accumulation area that is out of the way of normal activities easily identifiable and safely accessible.
3. Do label each waste container with "Hazardous Waste" and the specific names of the waste.
4. Do store waste in compatible containers with an unbroken screw-top lid.
5. Do keep containers of waste closed except when waste is being added to them.
7. Do keep container exteriors free from contamination. Wipe down container if necessary.

**DON’Ts**

1. Do not pour chemicals or solvents down the drain.
2. Do not evaporate chemical wastes in a fume hood.
3. Do not abandon waste chemical in non-designated area.
4. Do not mix various waste chemicals indiscriminately.
5. Do not throw chemicals into trash containers until you determine if waste is non-hazardous.
6. Do not accumulate chemical wastes for any extended period of time.
7. Don’t overfill Waste containers/drums. Containers/drums with wastes should not be more than 85% fill for ease in storage and handling.

**CAUTION**

HAZARDOUS WASTE
DOS.

1. All the personnel involved in gully sucker operation should be trained in it.
2. Ensure there is no hot work at nearby location.
3. Barricade the work area.
4. Conduct a gas test and monitor atmosphere continuously.
5. Ensure availability of spark arrester at the vehicle exhaust.
6. Ensure labeling of lever to avoid wrong positioning.
7. Ensure earthing of vacuum transfer system and connected hoses.
8. Ensure presence of valid fitness certificate.
10. Inspect joints and fittings of equipment, ensure tight connections.
11. Drain the hold up material completely before removing connection.
12. Use appropriate PPE’s based on material involved.

DON’Ts

1. Don’t use the hoses of inappropriate length and size.
2. Don’t use damaged or incompatible hoses.
3. Don’t route hoses on the walkway.
4. Don’t leave the work place until completion of work.
5. Don’t attempt to enter in PITS, Tanks during operation.
6. Don’t obstruct roads, emergency escape routes.
7. Don’t forget to cover the openings (manholes) after completion of work.
**Dos**
1. Ensure availability of all the required PPE in the substation.
2. Ensure CPR chart in the substation.
3. Ensure that people are trained in FIRST AID and CPR.
4. Ensure approved SLD in the substation.
5. Ensure adequate illumination level.
6. Mark escape routes in sub-stations and maintain emergency routes un-obstructed.
7. Use static floor mat’s wherever necessary.
8. Keep adequate number of fire extinguishers.
9. All the panels shall be identified properly (From Front and Back side).
10. Follow LOTO system and permit system.
11. All incoming/Outgoing cables shall be tagged properly.
12. Cover all trenches to avoid fall.
13. Ensure that cable trenches are sealed at the point of entry in sub-station to avoid accumulation of water in it.

**DON’Ts**
1. Don’t open any panel without applying LOTO.
2. Don’t touch live parts before discharging it with Discharge rod.
3. Don’t allow unauthorized entry in the substation.
4. Don’t allow unauthorized person to work on electrical system.
5. Don’t block emergency door’s.
6. Don’t store flammable and unwanted materials.
7. Don’t keep unwanted openings in the substation and panels.
8. Don’t use insulated gloves with expired date.
9. Don’t bypass safety interlock in the panels.
10. Don’t walk on the panels.
DOs

1. Use certified tools, tackles and equipment.
2. Ensure Safe Working Load (SWL) is marked and visible to everyone.
3. Ensure that personnel involved are trained and experienced.
4. Restrict unauthorized entry, use of equipment.
5. Inspect the equipment, tools and tackles daily prior to use.
6. Ensure that control buttons are labeled and functional properly.
7. Know the location of power disconnect switch.
8. Ensure power disconnect switch is accessible and not blocked.
9. Warn/Alarm prior to lift or move and remain clear from lifted load always.
11. Test the hoist brakes by raising load few inches off the floor.
12. Place controls in Off position in case of power failure to avoid unexpected start up.
13. Allow the hook block to rest in upward and designated area.
14. Follow proper slinging/Rigging practices.
15. Ensure working condition of safety latch in the hook.

DON'Ts

1. Don’t operate if limit switch, ropes, chains and other safety devices are worn or damaged.
2. Don’t overload the crane, hoist, other lifting components more than SWL.
3. Never leave the controls unattended while a load is suspended.
4. No maintenance work without electrical isolation, authorization, Lock out and Tag out (LOTO).
5. Don’t use equipment in case of any abnormality.
6. Don’t operate equipment if you observe damage in any block and structure.
7. Never pull a hoist by the pendant cable.
Fuel Oil Gun removal and cleaning

Do's

1. Train and make aware of the people involved in job.
2. Mention the tag no. of the burner in the work permit and communicate the same.
3. Isolate Fuel Oil and Flush the gun properly with steam.
4. Isolate atomizing steam line properly.
5. Loosen the plug of gun slowly.
6. Do remove plug only if there is no hold up.
7. Wear Face shield with safety goggles, leather hand gloves and full body apron during removal.
8. Always maintain safe distance while removing gun.
9. Collect all the residues safely.
11. Ensure that steam hose is connected with proper fittings prior to cleaning.
12. Use only Non-Sparking tools.

DON'T's

1. Don't perform any hot work near the work location.
2. Don't forget to clean the spill immediately.
3. Don't forget to barricade the work area while cleaning.
4. Don't remove the Gun tip without closing the valve, while steaming in progress.
5. Don't forget to wear job specific PPE's.
6. Don't forget to bundle the steam hose after use.
**Dos.**
1. Deploy only skilled, trained and experienced personnel.
2. Perform blasting in a designated area.
3. Barricade the work area and place warning **signs** *(High Noise and Blasting in Progress)*
4. Ensure that the blasting medium is less hazardous and does not contain lead, toxic materials.
5. Use only certified equipment and compressor.
6. Use fittings of appropriate rating with test certificate.
7. Provide adequate enclosure to stop dust dispersion.
8. Provide adequate ventilation and illumination if you work in confined space.
9. Inspect the system *(all hoses and connections)* physically prior to use.
10. Designate a separate responsible person in controlling the process.
11. Follow **CHANGE OVER SYSTEM** for longer duration of work.
12. Use blasting hood with respirator helmet, body protection.

**DON'Ts**
1. Don't perform sand blasting.
2. Don't start the work without authorization.
3. Don't use under rated and nonstandard pressure gauges.
4. Don't attempt to tighten any pressure joint while the equipment is under pressure.
5. Don't use damaged hoses.
6. Don't point the blasting gun nozzle on any person.
7. Don't route the hoses outside the barricaded area.
8. Don't forget to use appropriate PPE's according to job.
**DO's**

1. Ensure that lift is checked and certified by competent person.
2. Ensure that lift capacity, certificate and emergency numbers are displayed.
3. Ensure working of emergency light inside the lift.
4. Ensure telephone, emergency hooter are working.
5. Ensure that trained lift operator is deployed.
6. Press Emergency alarm button in case of elevator getting trapped between floors.
7. Use passenger elevator only to accommodate passengers.
8. Keep the machine room neat and tidy.
9. Ensure that maintenance of lift is carried according to schedule.
10. Ensure that lift is electrically isolated and Cautionary boards are placed during maintenance work.

**DON'Ts**

1. Don't panic in case of the Lifts getting trapped between floors.
2. Don't try to force open/close power operated doors.
3. Don't load the Lifts more than the rated load.
4. Don't rest on the door.
5. Don't allow seepage or water accumulation in the elevator pit, shaft and machine room.
6. Don't carry inflammable/Toxic materials in lift.
7. Don't use Lifts in case of fire (Use Stair Case).
**DO's**

1. Use the compressed air from the header provided for the purpose (instrument, plant, breathing, etc).
2. Provide appropriate color coding over the pipe line supplying the air and mark it.
3. Drain the air line before using it, for ensuring removal of corrosion dust and other impurities from the pipe line.
4. Close the valve to stop air supply instead of bending the hose.
5. Isolate and bleed all compressed air equipment before dismantling.
6. Use only sound, strong hose with secured couplings and connections.
7. Always close supply valve of air line first.
8. Do blind all the end points after use.
9. Wear goggles or face shield when using compressed air as there is a risk of flying particles.

**DON'Ts**

1. Don't play practical jokes with compressed air, it can be fatal.
2. Don't use compressed air to clean clothing, hair or body or to clean up your work area.
3. Don't point the hose at anyone and always see that nearby workers are out of line of airflow.
4. Do not try to catch a whirling hose.
5. Don't use defective/damaged hose for airline.
6. Don't use compressed air for ventilation during confined space entry.
7. Don't leave the air 'ON' without purpose.
8. Don't leave any temporary hoses on pathway after use.
9. Never use compressed air to pressurize a vessel (unless the vessel is specifically designed for that purpose). For example, do not use compressed air to empty oil from gear boxes.
**Respiratory Protection (SCBA & Cartridge mask)**

**DO's**

1. Identify the areas which need respirators.
2. Store respirators in designated location in specially designed storage cabinets.
3. Keep cartridges and mask in poly bags when not in use.
4. Determine type of respirator based on exposure (Chemical type, concentration, routine/emergency use).
5. Provide proper respiratory protection for jobs involving risk of toxic exposure.
6. Train the people regarding usage of SCBA before starting the job.
7. Ensure SCBA cylinder pressure is adequate for job time.
8. Ensure integrity of mask, Air hose, back pack, cylinder and the face piece seal.

**DON'Ts**

1. Don't store respirators in tool box and common areas.
2. Don't use the cartridge mask exposed to toxic gas.
3. Don’t use cartridge mask after shelf life (5 years without usage), in case of difficulty in breathing, foul odor and irritation.
4. Don't use cartridge mask in an oxygen deficient atmosphere.
5. Don’t use SCBA if you are not experienced and trained practically for using it.
6. Don’t stay in the area in case of low pressure warning whistle (when the pressure drops to 55±5 bars) in SCBA.

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**Catalyst Loading in Reactor**

**DO's**

1. Ensure Positive Isolation of the Reactor.
2. Ensure completion of Draining, Washing, Drying and Purging activity.
3. Barricade the area & Place Warning Signs (Nitrogen Purging Under Progress).
5. Obtain Confined Space Entry Permit.
7. Use IR Detector in case of inert entry.
8. Place a trained standby person at manhole.
9. Establish communication between personnel inside & outside Reactor.
10. Lifting Vehicles should be certified (Fitness & Third Party Inspection).
11. Ensure earthing of all the equipments used in loading.
12. Use Tripod stand and Fall Arrestor for vertical entry.

**DON'Ts**

1. Don't deploy people who are not aware about catalyst loading job.
2. Don't approach open manhole without SCBA during inert purging.
3. Don't keep loose tools and bolts on platform.
4. Don't use damaged hopper, loading Sock, pipes and catalyst bags.
5. Don't use lengthy loading socks. Use small sock section connected to a secured loading pipe clamped to hopper.
6. Don't stay near unloading point without dust mask.
7. Don't use unsecure ladders.
**DO's**

1. Identify and mark the H₂S area.
2. Trained personnel should be deployed to work in H₂S area.
3. TBT about hazards and risk of H₂S is to be given prior to start of the work.
4. Place warning signs and MSDS boards at H₂S prone area.
5. Check the functionality and calibration status of fixed detectors and F&G system.
6. Keep Escape mask while entering & working in H₂S prone area.
7. Carry Personal gas detectors in H₂S prone area.
8. Check wind sock location before entering H₂S area.
9. Use SCBA for H₂S exposure more than TLV.

**DON'Ts**

1. Don't allow anyone to work alone in H₂S prone area.
2. Don't stand downwind from sample point while sampling.
3. Don't eat, drink during work at H₂S prone areas.
4. Don't be panic and run in case of leak.
5. Don't try to find the source of leak without SCBA.
6. Don't involve in rescue unless protected.
7. Don't stay in H₂S area if no work.
8. Don't drain H₂S contaminated liquid in open system.

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**Dos**

1. Ensure medical fitness and certification for the personnel involved.
2. Ensure Climbing should preferably be done early in morning and avoid working after sunset.
3. Ensure Ropes, slings or toolkit/bag used for carrying material are inspected before use.
4. Ensure barricading at ground level.
5. Make the availability of drinking water.
6. Only one person shall climb at a time.
7. Ensure person who go up should climb in ladder in stages, and take five minute's rest after each stage/landing.
8. Always maintain three point contact while climbing up and down.
9. Always face the ladder while climbing up and down.
10. At least one person should be stationed on the ground to assist those who climb.
11. Ensure arrangement for proper communication between persons who climb and those who are on the ground.
12. If required make use of safety net, fall arrestor to reduce severity by accidental falls.

**DON'Ts**

1. Don't climb during bad weather conditions like storming, raining or with strong wind/sunlight.
2. Don't lean on the railing provided at the stages.
3. Don't carry any thing in your hand.
4. Don't allow the people to move below when material is being lifted.
5. Don't throw any material from the top.
6. Don't allow the people who are known to be sick and height phobic.
7. Don't look down at the ground from top of the stack.
8. Don't indulge in any horse play while at work. This may be fatal at such height.
9. Don't touch hot pipelines made for sampling.
10. Don't forget to carry gas detectors.
**MOBILE PLATFORMS & MAN-BASKETS**

**DOs**
1. Ensure inspection and testing by competent persons.
2. Display SWL (Safe Work Load), Max. number of persons, dates, etc. on equipment.
3. Enclose Man-basket from all sides by railings and toe-guard.
4. Use metallic rings to connect lanyards to crane hook.
5. Restrict movement of platforms.
6. Suspend man-basket by no less than 2 wire ropes.

**DON'Ts**
1. Don't let total load exceed 50% of crane SWL.
2. Never overload or overreach.
3. Maintain minimum clearance of 3 m from overhead power lines.
4. Don't raise/lower at more than 30m/min.
5. Don't use man-baskets in winds exceeding 25 km/hr.
6. Crane operator should not leave site. In case of emergency, lower personnel prior to leaving crane.

**SAFETY DURING DISMANTLING SCAFFOLDING**

**DOs**
1. Red Tag the scaffold "DO NOT USE" and barricade area before dismantling.
2. Competent/Experienced Supervisor to be present.
3. Remove bracing before horizontal members.
4. For the second to last horizontal pipe removal, the last should be given temporary bracing.
5. Knot both ends of pipes with clamps while lowering to ensure no slippage.

**DON'Ts**
1. Don't use man chain or throwing to lower members.
2. Don't remove Scaffolding from bottom to top.
3. Don't remove ladder till reaching the second last plane.
4. Don't use loose tools. Tie with strings/cord.
5. Don't keep the dismantled members loose or scattered.
**USE OF PORTABLE POWER TOOLS**

**DOs**

1. Use only inspected and approved tools.
2. Select appropriate tool for each job.
3. When not in use switch off the supply.
4. Store tools at designated place.
5. Carry out periodical Preventive Maintenance.
6. Use electrical hand gloves of suited rating & proper PPEs.
7. While working at height secure the tool with rope/cord.
8. Ensure proper earthing of all electrically operated tools.
9. Ensure Air Hose connected to pneumatic tool is secured.
10. Ensure power supply switch board with ELCB.
11. Ensure proper and fit electrical connections at both ends.
12. Ensure proper guard at the point of operation.
13. Hold grinders with open-end of guard away from body.
14. For grounded tools [3-pin plugs], use grounded outlets.

**DON'Ts**

1. Don't overload the tool. Don't force the tool.
2. Don't leave tools unsecured at height/unsafe place.
3. Don't wear loose clothing while using power tool.
4. Don't extend the length of cable of power tool.
5. Don't insert bare wires to draw power supply.
6. Don't modify the plug connections in any way.
7. Don't allow untrained person to operate power tool.
8. Don't allow damaged plugs/exposed terminals.
9. Don't use portable power tool in an area with LEL > 0%.
10. Don't use/leave power tools in rain/wet conditions.
11. Don't abuse the cord by pulling it/ lifting tool by cord.
12. Don't touch grounded surfaces while using power tools.
13. There is a higher risk of electric shock.
14. Don't modify the tools against design/with non-standard parts. Use properly rated parts, viz. wheels.

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**ELECTRICAL SAFETY**

**DOs**

1. Follow Electrical Isolation Procedure for handling any electrical equipment.
2. Check for LOTC (Lock Out-Tag Out) in every isolation.
3. Ensure physical evidence/proof of isolation.
4. Use rubber mats for High-Voltage Gear Operations.
5. Leave work and repairs to the Authorized Personnel.
6. Inspect Equipment thoroughly prior to normalization.
7. Insulate all junction joints and ensure there is no break.
8. Use proper connection pins for the relevant equipments.
9. Know how to use electricity safely.
10. Read the equipment Manual prior to its use.
11. Ensure there are no cuts/joints on the cables.
12. Ensure every group working on equipment has its LOTC.
14. Ensure ELCB and Accessories of right ratings are used.
15. Lay out the electrical cables properly to avoid trips & falls.

**DON'Ts**

1. Don't assume that the power is disconnected.
2. Don't overload electrical outlets/accessories (cables).
3. Don't use non-standard appliances.
4. Don't plug in a two-pin adaptor set to a three-pin socket.
5. Don't piggyback (connect multiple extensions together).
6. Don't use a two-wired cable with a three-pin plug.
7. Don't use a earthing connection as a neutral one.
8. Don't use under-rated or over-rated fuses.
9. Don't operate random switches without familiarity.
10. Don't remove ground connections before circuit is dead.
11. Don't insert bare wires into electrical outlets for power.
12. Don't energize without clearance from all parties.
13. Don't connect switches to outlets without ELCB, Trip.
14. Don't work within the minimum clearance distance from Overhead Power lines.
15. Don't ignore any signs & warnings posted.
DOs

1. Label all chemicals and close the containers tightly.
2. Know the chemical hazards using MSDS before use.
3. Display & Keep MSDS where chemicals are handled.
4. Select glassware material depending on type of work.
5. Apparatus and reagents should have fixed places.
6. Dispose broken glassware in a separate receptacle.
7. Store poisonous chemicals in a labeled cupboard.
8. Keep adequate ventilation in fume hood.
9. Promptly clean any spillage of chemicals.
10. Use fume hood for highly toxic/flammable materials.
11. Use flame fume hood for all operation with toxic flammable material.
12. Store and Dispose waste solvent separately.
13. On contact, use safety shower/eye wash for 15 min.
14. While disposing off chemicals in the sink, dilute them.
15. Use the appropriate PPEs for the chemicals handled.

DON'Ts

1. Don't use cracked, chipped glassware.
2. Don't store incompatible chemicals together.
3. Don't heat glassware on naked fire, use wire-mesh.
4. Don't start work without proper clamping apparatus.
5. Don't store corrosive liquids above eye level.
6. Don't lean over test tube or other reaction vessel.
7. Don't apply mouth suction for pipetting.
8. Don't handle volatile solvent near an open flame or electrical hot plate.
9. Don't leave heating operation unattended.
10. Don't leave electricity and service lines ON after job.
11. Don't keep fume hood door permanently open.
12. Don't pour water over immiscible flammable fluids.