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GENERAL PLANT

SAFETY

RULES



THE DOW CHEMICAL COMPANY

TEXAS DIVISION
FREEPORT TEXAS

GENERAL SAFETY RULES

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INDEX	PAGE
GENERAL SAFETY RULES	1
A. FIRST AID	1
B. CONDUCT	2
C. VEHICLES AND TRAFFIC	4
D. PROTECTIVE EQUIPMENT & CLOTHING	5
E. MACHINERY, TOOLS, AND EQUIPMENT	6
F. HOUSEKEEPING	9
G. LADDERS AND SCAFFOLDS	9
H. RED TAGS AND PERMITS	10
I. ELECTRICAL	11
J. EXCAVATIONS AND FLOOR OPENINGS	12
K. PRESSURE CYLINDER AND SAMPLE BOMBS	12
L. EMERGENCY PROCEDURE	13
M. RADIATION	13

GENERAL SAFETY RULES

A completely safe operation is one of the important objectives of The Dow Chemical Company and the following rules are designed to aid in achieving that objective. It is impossible to list here all safety rules that are necessary to insure maximum safe conditions and work habits. These rules cover only the general points and more detailed and specialized rules are in effect in various areas and departments throughout the plant.

The omission of any specific rule from this list should not be regarded as minimizing the importance of such rule, and in no way relieves the individual employee of the responsibility for doing every job in the safest manner possible.

Violation of any safety rule is considered a serious offense and this offense is subject to a penalty that may include discharge, depending on the seriousness of the violation.

The primary responsibility for personal safety lies with each individual and the effectiveness of the accident prevention program of the company depends upon the wholehearted cooperation of every employee.

A. FIRST AID

1. Whenever an employee receives an injury, even though it be considered slight, he must report as soon as possible to First Aid for treatment. The employee must notify his supervisor of the injury, preferably before reporting to First Aid, or as soon as possible thereafter, depending upon the circumstances.
2. Employees must not attempt to remove foreign particles from the eyes, except by washing with water. If a corrosive material, such as caustic or acid, gets in the eye, it must be washed immediately with running water

and the washing continued for at least fifteen minutes. The ambulance must be called so that washing of the eye can be continued enroute to the Industrial Medical Department. If any doubt exists as to the corrosiveness of the material that may get into the eye, the washing procedure must be carried out.

3. If corrosive chemicals come in contact with the body, the affected parts should be washed with running water for at least fifteen minutes. If necessary, clothing should be removed to make sure that adequate washing is being accomplished.

B. CONDUCT

1. All employees are expected to know and abide by their departments' safety rules.
2. Horseplay in any form must not be engaged in by employees in the plant or on duty.
3. Running in the plant must be avoided except in case of an emergency.
4. Pedestrian paths and walkways must be used whenever provided. In their absence, employees using streets and roadways must walk on the left side, facing approaching traffic.
5. Employees must not climb through, under, over or between railroad cars except in performance of assigned duties.
6. Employees entering other departments must familiarize themselves with and be governed by the written safety rules of that department.
7. Compressed gases must not be used for cleaning of clothes or the body.
8. Safety belts, with lifelines attached, are to be worn by employees when performing work in elevated positions where the use of scaffolds or ladders is impractical and where a slip might result in a serious accident.

ST0014123

9. Employees must not make inoperative, as a matter of convenience, such safety devices as relief valves, solenoid controls and swing guards.
10. Unsafe short cuts, such as walking across ditches on pipelines and cutting corners to save a few steps, must be avoided.
11. Before beginning work in areas where contact with corrosive chemicals is possible, employees must familiarize themselves with the location of the nearest safety shower, eye bath and telephone.
12. All containers such as bottles, jugs, or cans of hazardous chemicals must be properly labeled. This includes all chemicals that are toxic, corrosive or flammable.
13. All glass containers of one gallon or more capacity must be properly crated before shipment in the plants and while in use. All glass containers of material that is toxic, corrosive or flammable must be properly crated while being transported.
14. Employees, when riding on open type trucks, must not stand up or hang their feet over the sides.
15. Smoking is strictly prohibited in the plant in those areas posted with "No Smoking" signs. Reference is made to Section. VI B1 of the Employee's Manual for further information on policy regarding smoking.
16. Maintenance personnel must report to the operating supervision before beginning work in a production plant area on a non-routine job, and daily thereafter until the job is completed. Upon completion of the work, operating supervision must be notified that they are leaving the area.
17. Employees must familiarize themselves with the location of emergency equipment such as gas masks, fire extinguishers and fire blankets in the area in which they work.

18. Employees must not drop or jump on to a transite roof.

19. Flammable materials must not be dumped into sewers without permission of the supervisor.

C. VEHICLES AND TRAFFIC

1. The driver of company motorized equipment is responsible for the condition of the equipment while it is entrusted to him. Any irregularities of brakes, lights, horn, fumes in cab or general operation must be reported to the garage on the regular form provided for this purpose.

2. Drivers of plant vehicles must keep on roadways designated for such traffic as much as possible.

3. All traffic signs in the plant must be obeyed. Emergency vehicles on call may be exempt, but drivers of same, shall be responsible for driving with due regard for the safety of others.

4. The speed limit in the plant is 25 miles per hour unless otherwise designated by signs. The speed limit must not be exceeded except in emergencies.

5. The maximum number of people who may ride in a pick-up truck is three in the cab and six seated on the pick-up bed or on approved "built in" seats. Under no circumstances should arms or legs hang outside the vehicle cab or bed.

6. Hauled material that overhangs the sides or ends of trucks must be properly flagged.

7. Personnel newly authorized to operate motor scooters must be given proper instructions in the safe operation of the same.

8. The speed limit for motor scooters is 20 miles per hour. The removal of, altering or otherwise tampering with the carburetor or governor settings to increase the speed is prohibited.

ST0014125

9. No more than two people may ride on a package car scooter (box in front) and then only when the passenger is seated inside the box.

10. The load capacity for pickup model No. 781 scooters is 500 pounds. Not more than two passengers and the driver may ride in pickup model scooters and then only when an approved seating arrangement is provided by the Garage.

11. Night operation of scooters without lights is prohibited.

12. Passengers standing on Plant route busses must stay to the rear of the front row of passenger seats.

13. Motor scooter engines must not be left running while scooter is unattended.

D. PROTECTIVE EQUIPMENT & CLOTHING

1. When entering any designated compulsory eye protection area, all persons are required to wear eye protection as specifically approved for that area.

2. Proper type goggles must be worn when chipping, grinding, buffing, cleaning welds, loading or unloading material or any similar operation or condition where flying particles constitute an eye hazard.

3. Departmentally-approved eye protection must be worn by employees when transferring corrosive materials (such as acid, caustic, etc.) from one container to another by pouring and when taking process samples of such materials.

4. Employees working with or around electric arc welding or cutting must wear approved eye protection.

5. It is recommended that employees also wear proper goggles under the following conditions:

(A) When handling carboys or glass bottles of corrosive liquids.

(B) When a high wind is blowing.

ST0014126

(C) When riding motor scooters or open trucks on plant roadways.

6. All employees subject to any hazardous exposure, including dust, chemicals or toxic irritants, must wear adequate protective equipment approved by their supervisor and the Safety Department, such as: Head protection, rubber jackets, slicker suits, coveralls, fire resistant clothing, protective sleeves, spats, gloves, aprons, protective footwear, respirators and gas masks. Company-furnished clothing and protective equipment must not be altered without permission.

7. All employees must wear personal clothing that is safe and proper for their jobs.

8. In no case shall an employee in the plant work in an undershirt, shorts only, or stripped to the waist.

9. Metal safety hats must not be worn in areas that are electrically hazardous. Plastic hats are available and recommended for such use.

10. Adequate protective equipment, such as slicker suits, rubber gloves, rubber boots, as well as face and eye protection must be worn when breaking into pipelines, vessels or other equipment that may contain acid, caustic, or any other corrosive material.

11. Adequate ventilation must be maintained when using solvents. If ventilation is inadequate, then respiratory protection must be worn.

12. When flammable liquids are transferred from one metal container to another, proper bonding must be provided to prevent accumulation of static electricity.

13. All full-face gas masks must be sent to the Safety Department at least annually for checking.

E. MACHINERY, TOOLS, AND EQUIPMENT

1. Machines must have all guards in place before being operated, unless the specific job is approved by the supervisor.

ST0014128

2. Defective tools are to be tagged with a "Defective Tool Tag" and returned to the Tool Room for repairs.
3. Tools, material or equipment must not be intentionally dropped or thrown from a higher to a lower level unless adequate precautions have been taken to make sure that no injury to persons or damage to equipment will occur.
4. Neckties, loose clothing and jewelry, such as tie chains and watch chains, must not be worn around moving machinery.
5. Air pressure on pneumatic tools must be bled down before disconnecting them from the air supply.
6. Tool rests on grinders must be set not more than 1/8 inch from the wheel. Buffers are not to be operated with tool rests.
7. All pedestal and bench grinders and buffers must have a satisfactory guard over the wheel. Portable grinders and buffers must have a satisfactory guard over the wheel except in cases where special conditions make the use of a guard impractical and the employee's supervisor has approved its use without a guard. The guards on wire buffing wheels mounted on pedestal or bench grinders should be cut back at the bottom about 30 degrees from the vertical center line of the guard.
8. Grinding on the side of emery wheels must be done only on wheels that are designed for this purpose.
9. Moving machinery and process equipment in service must be shut down before adjustments or repairs are made except as follows: If it is not feasible to shut the equipment down before performing work upon it, then it is necessary for department supervision to:
 - (A) Determine for each item of such equipment what jobs must be performed with a listing of those jobs made for the use and information of the workmen and

their supervisors. Any non-listed jobs of any nature are not to be done.

(B) Prepare a detailed safe job procedure for each listed, permitted job and also a list of personnel authorized to perform these jobs.

10. Gloves must not be worn while using grinders, buffers, or drill presses unless permission to do so is secured in advance from the foreman.
11. Gasoline tanks on motorized equipment must not be filled while the engine is running.
12. Blue flags must be used on railroad tracks when the entrance of a train would present a hazard to personnel or equipment. Removal of blue flags must be authorized by the person who put them up.
13. The use of nonferrous tools is to be given consideration on jobs and in areas where an explosion or fire hazard exists.
14. In the event it becomes necessary to enter a vessel that may not be completely free of hazardous contents, a safety belt and life line must be worn in addition to the other protective equipment needed. Safety belts and life lines must be worn by those entering vessels whenever it is deemed advisable by the supervisor.
15. Vessels moved to the shops and salvage must be cleaned whenever practical, and tagged as to condition and previous contents.
16. Employees must not ride a load that is being handled by a crane. The riding of crane slings is prohibited, except where a bosun's chair is provided or permission is given by the supervisor.
17. Spring-loaded snap-on "Cleco" quick hose connections must be reserved for use on air and water service. A part of the "Cleco" connector must not be left connected to a process line. This does not exclude the use of other type quick connectors on the above or other service.

18. "Boss-type" hammer union connectors must be used on steam hose service.

F. HOUSEKEEPING

1. Compressed air from a hose must not be used in an attempt to clean a work area nor should it be used to clean machinery or parts unless specific safe procedures are established to protect the user as well as others in the area.
2. Walkways and stairways must be kept clear of all tripping hazards such as material, tools, hoses, etc.
3. Job sites must be kept as orderly as practical during the performance of the work. When a job is completed, the work area must be left in a neat and orderly condition.

G. LADDERS AND SCAFFOLDS

1. The following rules are to be observed when using ladders:
 - (A) Make certain that ladders are in good condition and of proper length before using them.
 - (B) Face the ladder and keep both hands free for climbing.
 - (C) Where practical, grasp the ladder by the side rails rather than the rungs.
 - (D) Set straight ladders so that the bottom is out from the vertical about one-fourth of the distance from the upper support to the bottom.
2. All straight ladders must be made secure at the top or must be held while in use.
3. Makeshift scaffolds, such as boxes, crates, and drums must not be used.
4. The following rules are to be observed while working on or over transite roofs:
 - (A) Where a permanent platform or walkway is not provided, a temporary walkway or spread-footing

ST0014130

should be used to distribute the load over a large area of the transite.

(B) Where it is absolutely necessary for employees to walk on transite roofs, permission must be secured from the supervisor and care must be taken to place the weight on the purlins or lap of the transite.

5. Use ladders rather than the cross braces when climbing scaffolds.

6. The following rules apply to rolling scaffolds:

(A) Rolling scaffolds of a height greater than three times the minimum base dimension must be guyed or tied off while being used.

(B) All caster brakes must be applied when scaffold is not in motion.

(C) Riding rolling scaffolds is prohibited.

7. Do not attempt to use scaffolds as material hoists or for mounting derricks unless they have been designated for this purpose.

8. Platforms and scaffolds must be kept clear of tripping and slipping hazards.

H. RED TAGS AND PERMITS

1. Valves, switches or any other equipment must not be operated when RED TAGS are attached to them. These red 3" x 6" cardboard tags, bearing the word "Warning" in black letters as a heading, are attached to equipment to signify that the operation of it would be hazardous.

Persons responsible for the equipment on which work is being done or anyone whose safety would be endangered if the equipment were operated, may attach the red tag. When red tags are attached to equipment by persons other than those responsible for its operation, prior approval from the person responsible shall be obtained.

Red tags may be removed prior to operation of equipment only upon the authorization of the person so designated on the tag. The only exception to this procedure is when the designated individual cannot be contacted. In such cases his supervisor may authorize the removal of the tag. If this is done, the supervisor must first determine to his complete satisfaction that the equipment can be operated in a safe manner. The prompt removal of tags upon full completion of a job will help keep such cases to a minimum. Red tags may be exchanged at the end of a shift or for some other reason; but again, only the person authorized to remove the tag may do so except as stated above.

2. At the discretion of the supervisor, locks may be used on valves and switches in addition to red tags.

3. "Safe Work Permits" are designed to provide a convenient means of checking the safety of such jobs as entering closed vessels, breaking into or repairing pipelines that have contained hazardous materials or pressures, work involving the use of flame or spark producing equipment in hazardous areas and work on machinery. These permits are to be requested and/or issued at the discretion of the departmental supervision involved in any jobs where the "Safe Work Permit" is applicable.

I. ELECTRICAL

1. 32 volt transformers are to be used in connection with drop lights when working inside metallic vessels. Exceptions to the above shall be considered when the use of 115 volts is required to accomplish the work. Special precautions shall be taken in grounding, handling, and inspecting electric cords, and permission shall be obtained from the supervisor before entering a vessel.

2. In locations where grounded and polarized electri-

cal receptables are not provided and there is a possibility that personnel may come in contact with ground or a grounded object, all portable electrical tools and equipment must be grounded before use. If three-conductor cord with ground clip attached is used, the grounding clip must be made secure to a grounded pipe or conduit before the plug-in is made to the outlet. Disconnecting should be done in reverse order. Exceptions to the above are the operating floors of Rectifier buildings and areas listed in the Magnesium Department's safety rules.

3. When electric motor driven equipment is to be worked on, the safety switch to the motor should be opened and "red-tagged" or the breaker lowered and "red-tagged". Blocking starter stations open is insufficient precaution against accidental starts.

J. EXCAVATIONS AND FLOOR OPENINGS

1. Where a safety hazard would be created for the personnel involved, and/or others, excavations such as ditches, trenches, or bell holes, should be sloped sufficiently to prevent cave-ins or slides. If sloping is impractical, shoring must be used in cases whenever the vertical dimension exceeds four feet. Unattended excavations in frequently traveled areas should be barricaded.

2. All floor or trench openings where grating or floor plates have been removed must be barricaded or marked by suitable warning signs.

K. PRESSURE CYLINDER AND SAMPLE BOMBS

1. Compressed gas cylinders must be secured to prevent falling when stored or being used.

2. Hoses must be disconnected from oxyacetylene torches before torches are stored in tool boxes or cabinets. These torches and hoses must be removed from

vessels that have been vacated by personnel.

3. All compressed gas cylinders must be properly labeled as to contents.

4. Pressure cylinders must not be filled except by, or with the consent of the owner.

5. Only those who have been properly instructed may fill pressure cylinders.

6. Compressed gas cylinders designed for caps must have caps securely in place while in transit or not in use, with the exception of those on portable welding equipment.

L. EMERGENCY PROCEDURE

1. In the event of an emergency such as a spill, fire or explosion in any area of the plant, all except those charged with the responsibility of taking care of the situation must leave the area and remain at a safe distance until the emergency is over. Exceptions to the above may occur when a specific request for assistance is made by supervision of the plant area involved or by the Plant Protection or Fire Department.

2. The following procedure should be used to call an ambulance, report a fire, spill of volatile materials or release of hazardous gases: Dial 666 and state that you want to report an emergency. The telephone operator will connect you with the emergency telephone system at which time you should give your name, the exact location (building number, door, etc.) and the nature of the emergency. The person reporting the emergency should stay on the line until sure that the message is understood and confirmed.

M. RADIATION

Note: In locations where a radiation source is used or stored, regulations require that it be marked with a "Radiation Material" sign. This sign is for the purpose

ST0014134

of informing anyone in the area that such material is present, and not that a safety hazard due to radiation exists.

1. Only authorized persons may enter an area marked by "Radiation Area" signs.
2. All areas where a radiation hazard exists must be marked conspicuously by standard signs at a safe distance from the source of radiation. These signs bear the radiation symbol of magenta (or purple) on a yellow background with the words "Caution-Radiation Area".
3. "Radiation Area" signs must be removed when a radiation hazard no longer exists in the affected area.

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