
SAFETY RULES

INCLUDES SAFETY POLICY
AND EMERGENCY PROCEDURE

ST0407504



**DOW CHEMICAL U.S.A.
TEXAS OPERATIONS
FREEPORT, TEXAS**

SEPTEMBER 1987

PLAINTIFF'S EXHIBIT

DOW-2427

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DOW CHEMICAL U.S.A.
TEXAS OPERATIONS

Achieving long-lasting, sustained safety improvement requires the commitment of each employee to perform his or her job safely every day.

Working safely is a condition of employment and a basic responsibility of every employee. This responsibility is the basis of our policy:

**WE WILL DO IT SAFELY—
—OR WE WON'T DO IT.**

TEXAS OPERATING BOARD

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TEXAS OPERATIONS
EMERGENCY PROCEDURE

1. "66666"

In the event of an emergency, such as a spill, gas release, fire, explosion, extensive power failure, or eye irritation in any area of the plant, "66666" must be called according to the following procedure:

- a. Dial "66666" and state that you want to report an emergency. (If this number is busy dial 2112.)
- b. Give your name, phone number from where you are calling and stay on the line until your message is understood and confirmed.
- c. State the nature and location of the emergency. In case of a spill or gas release, Industrial Security will ask the following questions:
 1. The block and plant
 2. The chemical released
 3. The origin of the leak
 4. The approximate size of the release—major or minor?
 5. Will the release affect the community?

Major Release:

A release which may affect the outside community.

Minor Release:

A release which may not affect the outside community.

- d. Station someone on the road to direct emergency equipment to the scene.
- e. Responsible personnel are expected to stay nearby and give information, such as chemicals involved, to the emergency force so that adequate measures can be taken.

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2. Each department where emergency horns are located must provide written emergency procedures covering circumstances and conditions under which the following emergency horn signals will be sounded.

Gas Release _____ (continuous)

This signal must be sounded only by the department where a hazardous release occurs. This cancels all safe work permits and stops smoking in that block. Everyone, except those charged with the responsibility of taking care of the emergency, must leave the immediate area of the spill and go to the proper assembly point according to the Unit Emergency Plan until the ALL CLEAR is sounded. The signal may be discontinued when the release is stopped, or notification is given by Industrial Security Fire or Safety personnel that the affected areas have been adequately blocked off. All personnel downwind of the signal must stand by and be prepared to use necessary protective equipment, or to leave their area. Depending on the circumstances, supervision in downwind areas should sound the ALERT or EVACUATE signal to guide employees in their area, if supervision determines that their area may be affected. For the sake of verbal communications, a downwind block should stop its ALERT or EVACUATE horn when the block's emergency plan has been effectively executed and the horn can be turned off without endangering anyone.

Alert - - - - - (series of short blasts)

This signal cancels safe work permits and stops all smoking in that block. All personnel, in the block where this signal is given, must be prepared to use proper protective equipment and to evacuate according to the Unit Emergency Plan if ordered. Personnel can return to work when the ALL CLEAR signal is given.

Evacuate - - - - - (series of 3 short blasts)

When this signal is sounded, leave the area and go to the proper assembly point according to the Unit Emergency Plan. This signal cancels Safe Work Permits and stops all smoking in that block. After evacuation, employees should remain clear of the area until the ALL CLEAR signal is given or employees are notified by supervision, Industrial Security, Fire or Safety personnel that it is safe to return to the work area.

All Clear _____ (series of 3 long blasts)

This signal must first be sounded by the department where the initial emergency occurs. A verbal all clear for certain areas no longer affected by the emergency may be issued by Industrial Security, Safety, Fire or by department supervision.

When the ALL CLEAR is sounded, go back to the work area. All Safe Work Permits cancelled by the emergency must be renewed before work is resumed.

3. Each department shall ensure that individuals working in a block familiarize themselves with the emergency plan for that particular block.
4. If operating a motor vehicle in an area where a Gas Release signal is given, avoid driving in gas clouds. Evacuate crosswind from the affected area. Observe all instructions given by Industrial Security. Motor vehicles, other than emergency units, must not be driven into an area downwind of a gas release signal. Drivers of emergency units including vehicles driven by supervisory personnel of the block involved, Safety, or Industrial Security, may enter such areas after taking appropriate precautions.
5. Emergency horns are restricted to emergency signals and tests. Horns owned by the Texas Operations departments that are used for purposes other than emergency signals must have sounds or codes different than standard emergency horns.
6. Barricades across plant roads must be honored by all vehicles, except required emergency units, even though the barricades may not completely block the road.

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3. Eye Irrigation Procedure

Any time foreign material enters the eyes, the eyes shall be irrigated at an eyewash fountain for at least 15 minutes. The ambulance shall be called. The irrigation shall continue until the ambulance arrives on the scene.

4. Chemical Exposure to Skin

- a. All toxic or corrosive chemicals that contact the skin shall be washed off with running water for a minimum of 15 minutes and promptly reported to supervision. All clothing, footwear, and jewelry shall be removed from the affected area.
- b. Consult with supervision before reuse of contaminated clothing, shoes, watch bands, or other items of apparel.

5. Safety Shower and Eyewash Stations

- a. Approved safety showers and/or eyewash stations must be provided in work areas where the eyes or body may be exposed to chemicals. (Refer to Dow Engineering Specification 43-600.)
- b. Adequate provisions for emergency shower and/or eyewash must be considered for work performed in remote locations.
- c. Water temperature for eyewash baths must be at no more than 112°F when used.
- d. All safety showers and eyewash stations must have an operational check at least weekly.

6. Ambulance Call

Ambulance must be called for:

- a. Foreign material in the eye.

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- b. A person suffering from chest pain.
- c. Extensive exposure to toxic or corrosive material
- d. A person in obvious/serious distress.

C. PERSONAL PROTECTIVE CLOTHING/EQUIPMENT

Protective clothing and equipment need not be worn while an employee is in an office, control room, lunch room, change room, going to and from parking lots and buildings by designated routes, or walking main roadways, unless it is required for the work being done. Eye protection or hard hats are not required inside motor vehicles. Each employee is responsible for using and wearing protective clothing and equipment in the correct manner.

Use only Texas Operations approved protective equipment. Each department shall assure through proper testing that protective clothing (gloves, boots, and body protection) will withstand penetration and permeation against those chemicals for which protection is required.

1. General Requirements

- a. Wear personal protective clothing and equipment that is safe and proper for your job according to your departmental rules and policies.
- b. Do not wear loose clothing, jewelry, or unconstrained long hair around machinery.
- c. Company furnished safety equipment and clothing shall not be misused or altered in such a way that its original protective features are rendered less effective.

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2. Foot Protection

Safety shoes are recommended for all employees. Canvas, cloth, or open-toed shoes must not be worn in any non-office environment. No bare feet or thongs are allowed in Texas Operations.

3. Eye Protection

- a. Approved safety glasses must be worn as minimum eye protection when in a non-office environment.
- b. Since minimum eye protection requirements vary from department to department, all employees and visitors must comply with the minimum requirements of the area they enter.
- c. Areas requiring chemical goggles must be designated. When chemical goggles are in use, wear the headband around your head, not around the hard hat.
- d. All employees who wear contact lenses will notify, in writing, their supervisor and Occupational Health to inform them of the type lenses they wear.
- e. Safety glasses or chemical goggles with dark tint lenses are not to be worn at night or in dark locations during the day.
- f. A face shield over either side shield safety glasses or chemical goggles must be worn when using grinders, buffers, friction cut-off saws, impact chisels, or if the job involves flying debris.
- g. Side shield safety glasses must be worn under a welding hood while arc welding or while chipping.

4. Head Protection

- a. Wear an approved safety hard hat in plant areas.

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- b. Requirement for wearing the safety hard hat may be waived with written departmental approval in specific circumstances where the wearing of the safety hard hat creates a greater hazard than without.
- c. Safety hard hat under welding hood is not required for certain jobs when no overhead hazard exists and written approval is obtained from maintenance and production supervision.
- d. The department head will specify protection required inside buildings such as shops and warehouses.

D. VEHICLES AND TRAFFIC

1. Responsibility

- a. All motor vehicles must have an up-to-date State inspection sticker.
- b. Every driver must possess a valid driver's license.
- c. A motorcycle is to be ridden by only one person who must wear a protective helmet.

2. Traffic Rules

Drivers of all vehicles and bicycles must obey all traffic signs and rules in the plant. Texas traffic rules prevail.

3. Speed Limit

The maximum speed limit on plant roads is 30 mph unless otherwise designated.

4. Seat Belts

- a. Seat belts shall be worn by all occupants in passenger vehicles.
- b. In pickups and trucks, all occupants of the cab shall wear seat belts.

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c. Occupants of the bed of pickups and trucks shall be seated within the bed or on built-in seats. Do not lean against tailgate.

d. No one will be allowed to ride in the bed of pickup trucks on public roads.

5. Passing Busses

a. When approaching a bus which has yellow warning lights flashing, slow down and be prepared to stop immediately when the red flashing lights come on. Vehicles must come to a complete stop while a bus is stopped to load and unload passengers on plant roads and shoulders.

b. Do not pass until:

(1) the bus has resumed motion,

(2) you are signalled by the driver to proceed, or

(3) the lights are no longer flashing.

6. Vehicle Accidents

All motor vehicle accidents, including those involving personal cars on company business, must be reported to Industrial Security at once. (Phone 238-2112.)

7. Unattended Vehicles

a. A motor vehicle engine must not be left running if the vehicle is unattended unless written departmental procedures permit the practice.

b. Forklift engines must not be left running if the vehicle is unattended.

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c. Unattended means the driver has left the normal control position of the vehicle.

8. Passengers on Mobile Cranes, etc.

You may ride as a passenger on equipment such as mobile cranes, winch trucks, or flat beds only if adequate provision has been made for seats or hand holds.

9. High, Wide Loads

If a vehicle or its load is more than 10 feet in width or higher than 16 feet, Industrial Security must provide an escort in transit on main Dow roads (roads within departmental limits not included).

10. Overhanging Material

Hauled material that overhangs the sides of trucks, trailers, or "cherry pickers" more than one foot must be flagged. Material extending more than three feet from the front or four feet beyond the rear shall be flagged. Loads must not be hauled from a single suspension cable that allows free swinging. (Roads within departmental limits not included.)

11. Blue and White Flashing Lights

The use of blue and white flashing lights is reserved for emergency vehicles only.

E. INDIVIDUAL ACTION

1. General

All employees are expected to act with responsibility and common sense. Do not engage in horseplay. Do not run in the plant except in case of emergency.

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2. Walking on Pipe or Cable Trays

Walk on pipelines only with written approval of supervision. Do not walk or step on cable trays except with specific written authorization by supervision.

3. Walking on Corrugated Roofing

Employees must not walk on or otherwise put weight on corrugated roofing without making provision for supporting weight.

4. Cleaning with Compressed Air

Compressed air will not be used to clean clothing or skin. If air is used for cleaning work areas, etc., the pressure will be controlled at 30 psi or less.

5. Dropping, Throwing Tools

Do not drop or throw tools, materials or equipment from one level to another unless precautions have been taken against possible injury to personnel or damage to equipment.

6. Wearing of Rings

- a. Do not wear rings while in plant areas and laboratories.
- b. Visitors who will be observing and not performing work tasks are exempted from this rule.
- c. Rings may be worn in offices, lunch rooms, cafeterias or going to or from work in designated walkways.

7. Voiding Safety Devices

Do not make any safety devices inoperative without specific written approval of your supervision.

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8. Life Jackets

Dow-approved life jackets or safety belts shall be worn when working over or near a water hazard.

9. Smoking

Smoking is not permitted in Texas Operations except in designated areas. Designated areas will not include plant roadways, utility corridors or ditches.

10. Battery, Wet Cell

Always wear chemical goggles when jump starting or handling batteries (includes "maintenance-free" type).

F. MACHINERY AND TOOLS

1. Moving Machinery

Shut down machinery with moving parts or process equipment in service before adjustments or repairs. If shutdown is not feasible, a written procedure specific for the job must be followed.

2. Guards on Power Machinery

Machinery, tools (including portable grinders and buffers) and equipment with exposed gears, belts, power transmission couplings, etc. shall not be operated without effective guards, unless written approval for specific jobs is obtained from the individual's supervisor.

3. Quick Connectors

Quick connectors used for air and cold water (under 140°F) must not be compatible with quick connectors used for nitrogen or other services.

4. Cheaters

Cheater devices, such as pipes, shall only be used with the written approval of supervision.

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5. Grinders and Buffers

Tool rests on grinders shall be set not more than one-eighth inch from, and level with, the center line of the wheel. Buffers are not to be operated with tool rests. Tongue guards shall be set not more than one-quarter inch from the wheel. Guards on buffers shall be cut back at the bottom approximately 30 degrees behind the vertical center line of the guard.

6. Bleed Down Pneumatic Tools

Bleed down pressure on the hose prior to changing pneumatic equipment unless the hose can be disconnected by use of a fitting designed to be disconnected under pressure.

7. Controls on Power Tools

Hand held power tools whether pneumatic, hydraulic, or electric must have a control which cannot be locked in the "ON" position.

8. Gloves, Wrenches On Rotating Equipment

- a. Do not wear gloves while using grinders, buffers, pipe threading machines, drill presses, or similar rotating tools, unless covered by a written procedure.
- b. Do not use a wrench to rotate a pump shaft or similar rotating equipment unless covered by a written procedure.

9. Pressuring Drum

Drums shall not be pressured or padded in order to remove product. When product in drums is heated, provision shall be made to avoid overpressuring and rupturing the drum.

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10. Quick Opening Valves

Terminal quick-opening valves must be plugged or blinded when not in use on lines containing hazardous materials.

11. Powder-Actuated Tools

Powder-actuated tools shall be used only when the users comply with ANSI A10.3, have written operating procedure, and have written department head approval.

12. Piping Specification

- a. Each department shall have a departmental procedure on piping specifications. The procedure shall address the development and use of piping specifications for process, maintenance, utility, and instrument installations. Inspection of installations shall also be addressed in the procedure.
- b. Departmental piping specifications must be initially reviewed by the Mechanical Engineering Section of Engineering Services and then reviewed every three years thereafter.

13. Passenger and Freight Elevators

Each owner is responsible for maintaining records (documentation) of required inspections. These inspections and any repairs, modifications or new installations shall be done by personnel approved by the Electrical Services-Cranes/Elevators Group, and in accordance with ANSI 17.2.

14. Plasma Arc Cutting Equipment

All operators of plasma arc cutting equipment must be trained and qualified.

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G. CHEMICALS AND MATERIALS

1. Chemical Hazard Identification

All storage tanks outside process block areas must show chemical hazard identification, owner's department, and telephone number.

2. Glass Containers

Glass containers, one gallon or more in capacity, shall be in a shipping crate or other protective container or coating while in transit. Owners shall ensure that glass containers of all sizes will not be subject to breakage in transit.

3. Potable Water Cross Connection

Do not connect potable (fresh) water to any other system.

4. Nitrogen Use in Buildings

Nitrogen or other industrial gases used inside an enclosed shop, lab, building, room, etc., must have adequate provision to prevent oxygen deficiency.

H. RED DANGER TAGS

1. Use

- a. For the protection of personnel, Red Danger Tags must be attached to isolating devices to ensure the tagged isolating device is maintained in the safe position.
- b. In all cases the primary isolating device (first in rank) must be tagged.
- c. Attachment of Red Danger Tags to isolating devices alone does not mean the equipment has been cleared to work on.

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d. Each department shall develop and implement written procedures specific to their area for the use, placement, inventory, removal, and disposal of Red Danger Tags.

e. The owner may delegate the responsibility for placement and removal of Red Danger Tags if covered by a written job procedure approved by the department head.

f. Dow personnel must not perform work utilizing non-Dow Red Danger Tags as their protection.

2. Conformance

a. No isolating device is to be operated by anyone while a Red Danger Tag is attached.

b. Red Danger Tags shall not be altered or re-used on another job.

3. Violation

Violation of Red Danger Tag rules shall result in disciplinary action up to and including discharge.

4. Placement

a. Complete fully in specific terms the reasons for tagging, the description of the work to be done and the precise location of the tag.

b. The owner will be responsible for placing all of the isolating devices in the safe position and attaching the first Red Danger Tag.

c. After the owner has attached the first Red Danger Tags, any person or group whose safety could be endangered by the operation of the isolating device must attach their Red Danger Tags or follow Red Danger Tag Master System.

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5. Removal

- a. As the individual jobs are completed, each person or group must remove their tags immediately. Departments must have written procedures which provide for continuity of responsibility for protection of employees involved in shift change, job interruptions, end of day, etc.
- b. Operating personnel Red Danger Tags shall be removed last. A person who is authorized to remove this Red Danger Tag must not remove the tag until he/she has determined that operation of the tagged isolating device will not endanger personnel.
- c. Red Danger Tags may be removed only upon authorization of the person designated on the tag, except if the designated person fails to remove the Red Danger Tag, and after a diligent effort to locate this person has been made, an employee who has been designated by the Major Manager of the department who placed the first Red Danger Tag may order its removal. This designated employee may order removal only after inspecting the job site.
- d. The "Removed By" section of the tag shall be filled in and the tag disposed of according to operating department procedures.

6. Intermittent Operation

If an isolating device must be operated intermittently, such as for testing equipment, the Red Danger Tag shall be detached before each operation. The Red Danger Tag may be re-used on the same job if the scope of the job has not been changed.

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7. Training

All personnel who use Red Danger Tags must be trained before initial use and thereafter as per departmental procedures. The following items must be included in the training program:

- a. The general procedures included in the Red Tag Safety Standard.
- b. The procedures specific to their department relative to the use, placement and removal of Red Danger Tags and the Red Danger Tag Master System.

8. Red Danger Tag Master System

In addition to the procedures for Red Danger Tags, the following will apply to the use of the Red Danger Tag Master System:

- a. Owner tags must be placed first.
- b. A Dow employee, with maintenance responsibility, must review the field Red Danger Tag locations and is responsible to attach (or have attached) the second Red Danger Tag to each location and then sign the Red Danger Tag Master as accepting the clearance.
- c. A job number or other identifying system will be assigned the Red Danger Tag Master and each field Red Danger Tag will be identified by this system.
- d. A positive means, verified before each use by the owner, such as job procedures, a tagging point checklist, or drawing, must be used with each Red Danger Tag Master as a way for the maintenance personnel to verify Red Danger Tag location for acceptance of the clearance.

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- e. Each function wishing to work under the Red Danger Tag Master shall review the location of the Field Red Danger Tags and sign the Red Danger Tag Master.
- f. After completion of the work, each group working under the Red Danger Tag Master will sign the Red Danger Tag Master thus releasing the clearance.
- g. Only after the Red Danger Tag Master has been released by all non-owner groups can the Red Danger Tags be removed from the field locations.
- h. After release of the Red Danger Tag Master by all maintenance personnel, the owner can remove the Red Danger Tags in the field and clear the Red Danger Tag Master.

1. SAFE WORK PERMITS

Safe Work Permits are MANDATORY for:

- 1. Certain electrical jobs as defined in Safety Standards.
- 2. Line/equipment openings such as pipeline, pumps or vessels which contain or have contained hazardous temperatures, pressures or materials.
- 3. Hot Work (non-electrical).
- 4. Confined Space entry.
- 5. Hot tapping on equipment containing hazardous material or pressures.
- 6. Excavation work.
- 7. Hydroblast and sandblasting jobs.
- 8. Radiography.

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9. When doing on-line leak repair as addressed in Safety Reference 61.

10. Asbestos-related jobs.

11. When requested by personnel doing the work or required by Department Operations Policy.

J. PORTABLE LADDERS

1. Applicable to All Ladders

- a. All ladders shall be heavy duty, non-conductive, industrial strength, and rated for 300 pounds capacity. (Tank ladders inside vessels are excluded.)
- b. The user is responsible for visually inspecting a ladder before use and insuring the ladder capacity is not exceeded. Any ladder found defective shall be tagged, removed from service, and repaired or destroyed.
- c. Wooden ladders are not to be coated with anything other than clear preservative.
- d. Ladders are not to be used as pencil or scaffold boards.
- e. Use both hands for climbing.
- f. Only one person is permitted to climb a ladder at a time.

2. Stepladders

- a. Stepladders over 10 feet must be tied off at the top or be held by another worker.
- b. Personnel must not stand on the cap or top step of a stepladder. (Top step is defined as the first step below the cap.)
- c. Stepladders are not to be used as a straight ladder.

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3. Straight and Extension Ladders

- a. Top sections of extension ladders shall not be used by themselves except for restricted entry into vessels, furnaces, and for scaffold access when properly tied off.
- b. All straight and extension ladders must be tied off within three rungs of the top. Ladder must be held by another person while being tied off.
- c. Extension ladders shall have one of the lower rungs of the upper section tied to the adjacent rung of the lower section when in use.
- d. All straight and extension ladders must be equipped with non-skid feet.
- e. Straight and extension ladders shall be placed at such an angle that the base is one-fourth of the working length of the ladder out from the top support: e.g. 20 feet up 5 feet out, or one rung out for each 4 up.
- f. Maximum height: Straight ladder, 24 feet. Extension ladder, 40 feet.

K. SCAFFOLDS AND PLATFORMS

1. Platforms

Makeshift platforms, such as stacked material, chairs, boxes or drums shall not be used.

2. Scaffolds

- a. All work levels of a scaffold, if practical, must be fully planked. Wear a safety belt if working from an incomplete scaffold.
- b. Scaffolds must not be used as material hoist towers or for mounting derricks without first determining the loads and stress involved.

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- c. No scaffold shall be erected or dismantled except by trained personnel. The Carpenter Shop will be responsible for approving trained personnel.
- d. Maximum loading: Three people and a dead load not to exceed 200 pounds or a total distributed load not to exceed 800 pounds. The maximum loading for a suspended scaffold is two people and a dead load not to exceed 200 pounds, or a total distributed load not to exceed 600 pounds.
- e. All scaffold platforms and tubes shall be free of tools, trash, etc., before calling in for removal.
- f. All scaffolds shall be equipped with handrails, midrails, and toe boards except on owner's written request.
- g. Tower scaffolds must be free of personnel, material, and equipment before being moved. Move only with sufficient help. Caster brakes on rolling tower scaffolds must be locked while stationary.

L. EXCAVATION

Excavations into which workers must enter, such as trenches or bell holes, that exceed five feet shall be sloped or shored sufficiently to prevent cave-ins. The responsibility for erecting barricades at excavations rests with the individuals performing the work.

M. ELECTRICAL

1. Receptacles - 440V

440 volt plugs must not be plugged into receptacles or unplugged unless they are de-energized by an open switch.

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