

PLAINTIFF'S EXHIBIT

DOW-2923

H A N D B O O K
F O R
H A N D L I N G
A S B E S T O S M A T E R I A L

THE DOW CHEMICAL COMPANY
TEXAS DIVISION

Maintenance Department
Supporting Services

March, 1971

ST0540027

SAFE WORK PROCEDURE

Subject: Insulation Removal

Minimum Safety Equipment Requirements

1. Hard Hat must be worn.
2. Side Shield Goggles must be worn.
3. Approved "Nose and Mouth" Dust Respirator must be worn at all times.
4. A Safety Check List is to be filled out prior to the job and properly approved. Turn in to supervisor at completion of job.
5. All other safety equipment which is required by job location must be used. When in doubt, read Area Safe Work Procedure.

Special Hazards:

1. Do not breathe asbestos dust.
2. Asbestos dust falling or blown on other employees and scattering throughout the area must be eliminated as far as possible.
3. Keep all personnel not directly involved in the insulation removal operation away from the area unless they observe minimum safety requirements and have been apprised of the hazards involved.
4. Consider the use of water to wet down the insulation before and during removal.
5. Safe handling of all debris before loading at the job and unloading at the burial site is to be considered and planned for prior to the initiation of the job. The Yard Department is to be notified for disposal, informed of the hazards, and should handle material while still in a damp condition.

ST0540037

USE OF HANDBOOK
FOR
HANDLING ASBESTOS MATERIALS

The Safe Work Procedures outlined in this handbook are minimum requirements for working with asbestos containing materials.

In some cases, job conditions may dictate more stringent requirements. These could include completely wetting down the area with water when removing old insulation, or completely isolating the work area tarpaulins, etc.

These procedures are to be used in conjunction with Plant Safety Rules, Maintenance Standard Safe Work Procedures for the Area, and Safety Standards.

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HANDBOOK FOR HANDLING ASBESTOS MATERIALS

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PURPOSE AND DESCRIPTION

The purpose of this handbook is to outline the safe handling procedures of various asbestos materials used in the Texas Division. The intent is to minimize future exposure of employees to asbestos dust in any form through the proper use of safe work procedures.

Asbestos is widely used as structural wall board, insulation, and roofing material. Asbestos fibers are used as a mechanical reinforcing matrix in insulation, roofing paper, certain piping systems, etc.

When working with materials which contain asbestos fiber, care must be taken to eliminate as much loose dust as possible. Wetting, isolating the work area, or other suitable procedures to eliminate the dust hazard is absolutely necessary.

Should a hazard exist and these procedures are not sufficient, contact the superintendent of the Plant A or B Functional groups.

Exceptions to these procedures can be obtained only by the above responsible superintendent.

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SAFETY

Materials described herein are furnished in blocks (or lags) shapes, curved segments, pre-formed pipe and fitting covers, flat and corrugated sheets and the asbestos as loose material.

When handled, formed, cut, sawed, or mixed into mortars, a fine dust will be loosed in the air which may be breathed into the human respiratory system.

The health of those who breathe asbestos dust may be seriously effected. Results can be similiar to those caused by the more commonly known materials such as silica and coal dust. This phenomena has been observed for many centuries. Current medical discoveries show that handling of asbestos by a confirmed cigarette smoker is especially hazardous in the area of potentially serious lung disorders. It is recommended that those persons handling asbestos not smoke cigarettes in any quantity.

The intent of THE DOW CHEMICAL COMPANY is to minimize the exposure of their employees to these hazardous dusts. In order to accomplish this, substitutes will be used wherever possible. Respiratory protection, dust collectors, blowers, etc., will be mandatory where asbestos containing materials must be handled.

The two respirators which have been approved by the Safety Department are: (1) MSA Dustfoe 77, Dow Stock No. 15-26005, Cartridge No. 15-23775, and (2) Wilson Dust Respirator, Dow Stock No. 15-25460, Cartridge No. 15-23790.

ST0540030

SAFE WORK PROCEDURE

Subject: Fabrication of Asbestos Materials

Minimum Safety Equipment Requirements:

1. Side Shield Goggles must be worn.
2. Approved "Nose and Mouth" Dust Respirator must be worn at all times.
3. There shall be a Dust Collecting System on Power Equipment adequate to remove large amounts of dust generated.
4. A Safety Check List is to be filled out prior to the job and properly approved. Turn in to supervisor at completion of job.

Special Hazards:

1. Do not breathe asbestos dust.
2. Do not operate equipment if provision cannot be made to eliminate dust in a safe manner.
3. Normal precautions must be taken for working with power equipment. (See specific Safe Work Procedure for Operating Power Driven Tools if in doubt.)
4. When cleaning out the vacuum system of the machines, a respirator must be worn. Wet down dust prior to handling, if at all possible. Dispose of asbestos dust while in a wet condition. The Yard Department must be notified under these circumstances and disposal by landfill should be accomplished while material is damp.
5. Good housekeeping in the shop area is to be practiced. Asbestos dust must be vacuumed throughout the shop area if and when such conditions exist.

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SAFE WORK PROCEDURE
Fabrication of Asbestos Materials
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Special Hazards Cont'd.

6. People in area other than worker when exposed to asbestos dust are required to observe all minimum safety requirements.

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SAFE WORK PROCEDURE

Subject: Mixing Cement Containing Asbestos

Minimum Safety Equipment Requirements:

1. Side Shield Goggles must be worn.
2. Approved "Nose and Mouth" Dust Respirator must be worn at all times.
3. A Safety Check List is to be filled out prior to the job and properly approved. Turn in to supervisor at completion of job.

Special Hazards:

1. Do not breathe asbestos dust.
2. When mixing whole sacks, do not open sacks and dump into open mixing tray.. Moisten asbestos by adding water through a small hole in sack until danger of dust is eliminated. Then the material can be removed if necessary to complete mixing operation to desired consistency.
3. Slipping or falling is a hazard to be considered when working around wet asbestos mud.
4. Back strains from handling containers of mixed mud are also a hazard. A means of handling this mixture may need to be provided, depending on the circumstances.
5. Keep all personnel not directly involved in the mixing operation away from the area unless they observe minimum safety requirements and have been apprised of the hazards involved.

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SAFE WORK PROCEDURE

Subject: Handling and Storing Asbestos Materials

Minimum Safety Equipment Requirements:

1. Side Shield Goggles must be worn.
2. Approved "Nose and Mouth" Dust Respirator must be worn at all times.
3. A Safety Check List is to be filled out prior to the job and properly approved. Turn in to supervisor at completion of job.

Special Hazards:

1. Do not breathe asbestos dust.
2. Handle materials in such a manner as to minimize exposure to dust.
3. Areas used to store asbestos containing materials should be marked "Asbestos Material". Follow Safety Check List procedure when handling.
4. Destroy boxes that have contained asbestos materials as soon as boxes are empty.
5. Good housekeeping of shop areas is to be practiced. Clean up all loose dust on floor, machines, shelves, etc., by vacuuming. Wet down and dispose of dust while damp. Notify the Yard Department to dispose by landfill while material is still damp.

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SAFE WORK PROCEDURE

Subject: Sawing and Cutting by Hand

Minimum Safety Equipment Requirements:

1. Hard Hat must be worn.
2. Side Shield Goggles must be worn.
3. Approved "Nose and Mouth" Dust Respirator must be worn at all times.
4. A Safety Check List is to be filled out prior to the job and properly approved. Turn in to supervisor at completion of job.
5. All other safety equipment which is required by job location must be used. When in doubt, read Area Safe Work Procedures.

Special Hazards:

1. Do not breathe asbestos dust.
2. Wear the "Nose and Mouth" Dust Respirator when removing asbestos material from package, installing, or cutting.
3. All people in the area other than those doing the work which are exposed to asbestos dust are required to observe minimum safety requirements.
4. Special precautions shall be taken when using "Skil-Saw" for sawing asbestos materials to eliminate dust hazards and protect all people in the area.

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PRE-JOB CHECK LIST
FOR
HANDLING ASBESTOS MATERIALS

Job Description: _____

Location: _____ Maximum Service Temperature: _____

(Note: When under 1500° F., use non-asbestos material.)

	<u>YES</u>	<u>NO</u>
1. Area safe work procedure read and understood.	☐	☐
2. Safety Standard No. _____ apply?	☐	☐
3. Safe work permit required?	☐	☐
4. Handbook for Handling Asbestos Materials used?	☐	☐
5. Electrical clearance?	☐	☐
6. Red tags necessary?	☐	☐
7. Safe scaffolds in place?	☐	☐
8. Type of material to be removed known?	☐	☐
9. Disposal of used materials required?	☐	☐
10. Stencil on job denoting material used?	☐	☐
11. Signs up warning other personnel?	☐	☐
12. Has disposal of all debris been arranged?	☐	☐
13. Is water needed for controlling dust?	☐	☐
14. Have all involved personnel been instructed?	☐	☐
15. *Safety Equipment required on job:		

Chemical Goggles	Scott Air Pack	Explosimeter
Face Shield	Rubber Gloves	Air Mover
Acid Hood	Rubber Boots	Exhaust Fan
Dust Respirator	Slicker Coat	32 Volt Transformer
Gas Respirator	Slicker Pants	Other:
Air Mask	Safety Belt	

*Cross out items not applicable.

Approvals:

Shop Superintendent _____

Operations Superintendent _____

Foreman _____

Date: _____

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THRESHOLD LIMIT VALUE

We are required to keep asbestos dust in the air within certain limits. These Threshold Limit Values are $2\frac{1}{2}$ fibers per cubic centimeter. In order to assure compliance with these limits, the Environmental Health Group will make random samples. When field testing is necessary, call Environmental Health at 238-2121.

In order to keep asbestos dust concentration within the proper limits, any dusty conditions connected with the handling of asbestos materials must be kept to an absolute minimum. This must be done as outlined in the previous Safe Work Procedures by wetting down the area, pre-soaking the material, or vacuuming the material as it is cut. Each individual job should be planned with this uppermost in mind.

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