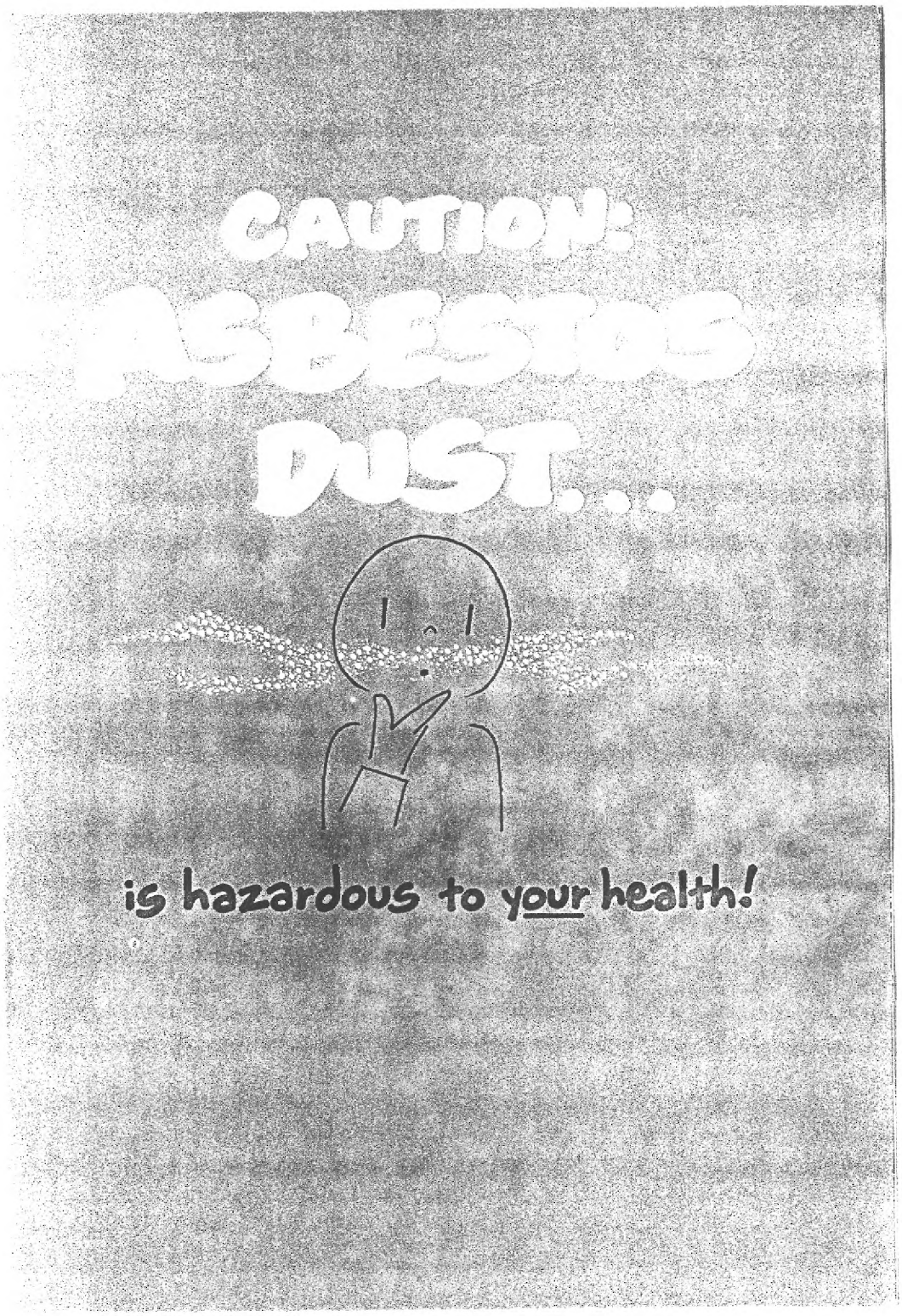
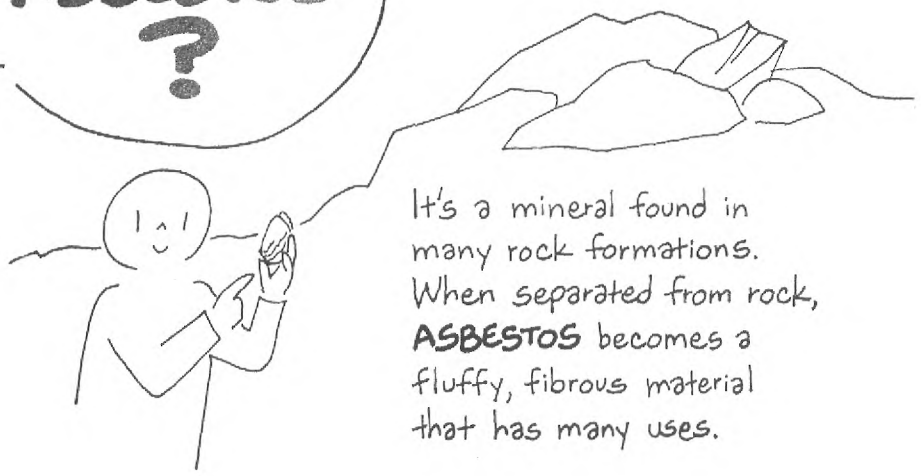


AU4104

What is ASBESTOS?



It's a mineral found in many rock formations. When separated from rock, **ASBESTOS** becomes a fluffy, fibrous material that has many uses.

3 most common TYPES of asbestos...

CHRYSOTILE

90% of all asbestos processed. Resists heat but not acid. Can be easily spun into asbestos cloth.



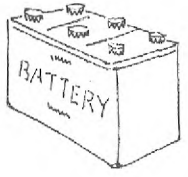
AMOSITE

Acid and heat-resistant. Used in bulk form for heat insulation and molded into pipe insulation.



CROCIDOLITE

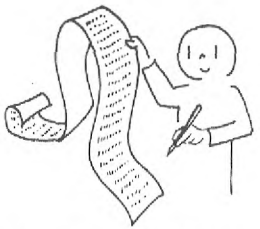
Poor heat insulation, but highly resistant to acid. Used to make acid-resistant cement pipe and in electric battery cases.



UCC 008845

AU4 10

A SCRIPTOGRAPHIC BOOKLET by CHANNING L. BETE CO., INC., Greenfield, Mass., U.S.A.
© 1973
1053A 7 73

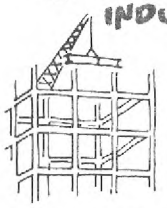


How is asbestos USED?

There are almost 3000 asbestos products manufactured today!

MAJOR USES OF ASBESTOS

1 CONSTRUCTION INDUSTRY



Uses about 2/3 of all asbestos produced for cement production, roofing, plastics, insulation, floor tiling.

2 AUTOMOTIVE INDUSTRY



Widely used as friction material in brake and clutch linings . . . also as undercoating to protect against corrosion.

3 TEXTILE INDUSTRY



Fireproof clothing and safety equipment, fire-resistant curtains for theatres, schools.

4 OTHER USES



Asbestos is used to strengthen metals exposed to heat -- e.g., in the nose cones of space vehicles.

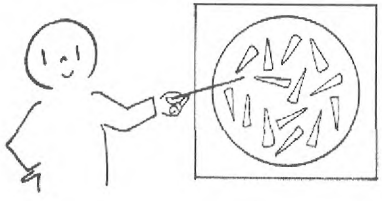
Asbestos is very useful BUT...

Exposure to asbestos DUST presents HEALTH HAZARDS



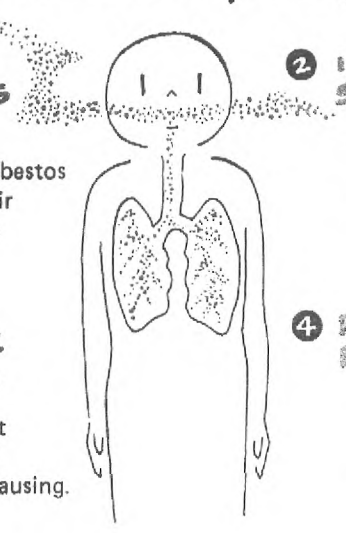
How can asbestos be a HEALTH HAZARD ?

If air containing asbestos dust is inhaled, the small, sharp fibers may work their way into the lung tissue and remain imbedded for life...a constant source of irritation.



Asbestos bodies (fibers covered with protein) as they appear in the lungs

The danger **VARIES** depending upon...



1 INTENSITY OF ASBESTOS DUST

(number of asbestos fibers in the air within a given space)

2 INDIVIDUAL SUSCEPTIBILITY

Some people are more likely to develop asbestos-related diseases than others.

3 FIBER SIZE and variety

Very fine, short fibers are most highly cancer-causing.

4 PRESENCE OF OTHER POLLUTANTS

-- such as cigarette smoke can increase the risk of disease.

UCC 008846

AU4100

Asbestos-related diseases

DEVELOP OVER A LONG PERIOD OF TIME

Symptoms may first appear 30 years after exposure!

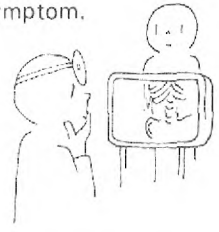
1 ASBESTOSIS

A lung disease that begins with irritation of the lungs by inhaled asbestos dust, causes scarring and thickening of the lung wall. Breathing becomes difficult, thus causing a strain on the heart. Usually appears 10 - 20 years after exposure.



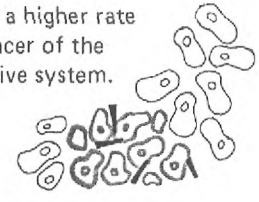
2 MESOTHELIOMA

A cancer of the chest or abdominal lining, which is rare except in people exposed to asbestos. Usually fatal within one year of the first symptom.



3 CANCER of respiratory system is eight times as common in asbestos workers as in the general public.

-- also a higher rate of cancer of the digestive system.



4 ASBESTOS CORNS

or warts result from chronic irritation caused when asbestos fibers penetrate the skin -- usually the hands.

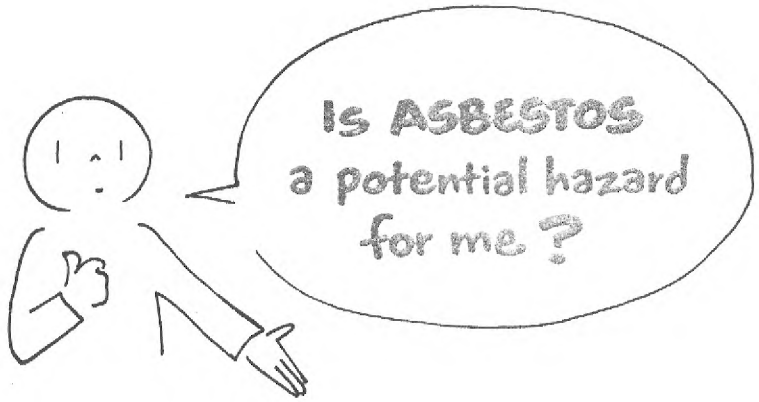
Not believed to lead to skin cancer.



All the hazards of asbestos are not yet fully understood...much research is needed.

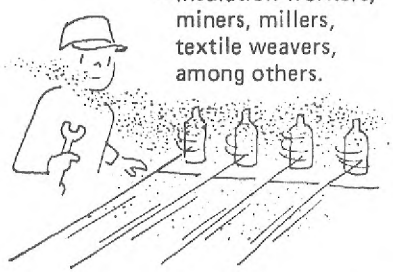
IN THE MEANTIME -- it's vital to be aware of **WHERE** the danger lies.





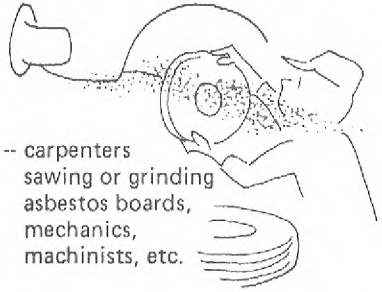
If you work with or around asbestos -- it is!

PRODUCTION WORKERS



-- insulation workers, miners, millers, textile weavers, among others.

MAINTENANCE WORKERS



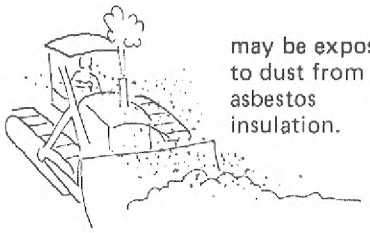
-- carpenters sawing or grinding asbestos boards, mechanics, machinists, etc.

FAMILY AND FRIENDS of asbestos workers



may be exposed to dust carried home on work clothing.

DEMOLITION WORKERS



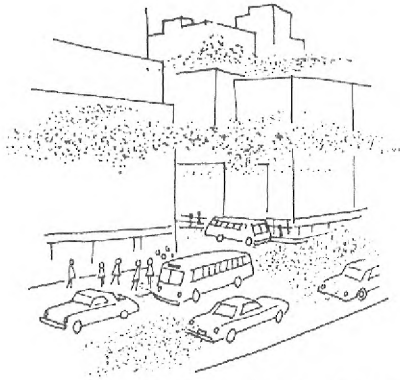
may be exposed to dust from asbestos insulation.

UCC 008847

AU4107

However...
the hazard doesn't stop there--

"ASBESTOS POLLUTION" AFFECTS EVERYONE!



A significant asbestos dust level has been found in the air in large cities and suburbs.

Dust originates from asbestos industry, construction sites, the wear of brake linings, clutch plates, mufflers.

AND... IF YOU SMOKE...



Asbestos workers who smoke have almost 90 times greater risk of cancer as the non-smoking general public.

There is
NO KNOWN TREATMENT
for asbestos-related diseases

But if problems are diagnosed early, exposure levels can be reduced and complications treated.



Sooo...

especially if you work with or around asbestos,
HAVE REGULAR CHECK-UPS!



How EXPOSURE can be CONTROLLED

Steps we can take for protection against asbestos dust

First...

KNOW the OSHAct SAFETY STANDARDS

The **O**ccupational **S**afety and **H**ealth **A**dministration of the Federal Government has established standards for work in areas containing a certain level of asbestos dust.



OSHAct SAFETY STANDARDS

1. Time-weighted average concentration levels for 8-hour workday shall not exceed 5 asbestos fibers per cubic centimeter of air.
2. Peak concentration level allowed shall be 10 fibers per cubic centimeter of air for no more than 15 minutes an hour, up to 5 hours per day.

Standards scheduled to be reduced in 1976, possibly sooner.



UCC 008848

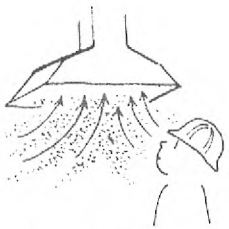
AU4108

Then...

WORK TO MEET THESE STANDARDS via...

1 NEW ENGINEERING METHODS

. . . to prevent the escape and spread of floating dust. Dust-producing operations can be isolated. Tools can be fitted with exhaust ventilation and dust control systems.



2 BETTER WORK PRACTICES

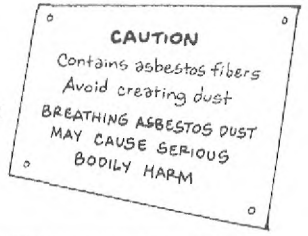
Asbestos can be wet down before handling to prevent airborne fibers.

Asbestos waste and debris can be sealed in impermeable bags and containers.



3 CAUTION SIGNS AND LABELING

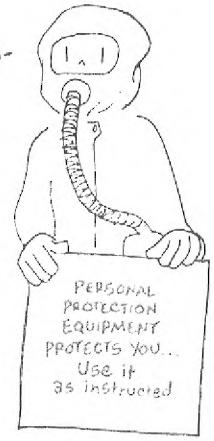
All products containing asbestos fibers not permanently bonded or contained must be labelled visually and legibly, i.e.,



MORE...

④ PERSONAL SAFETY EQUIPMENT

When handling asbestos and materials or equipment containing asbestos, PERSONAL PROTECTIVE EQUIPMENT could be the only way to protect you.



SPECIAL CLOTHING... either fabric or resin-coated paper. Includes full suits, coveralls, head covering, gloves, foot covering.

RESPIRATORS (3 basic types)

A. FILTER-TYPE AIR PURIFYING RESPIRATORS
For use when dust level may exceed recommended peak.

B. POWERED AIR-PURIFYING RESPIRATORS
Used when average contamination is between 10 - 100 times peak level.

C. TYPE "C" SUPPLIED-AIR RESPIRATORS
Used when concentration may be more than 100 times recommended levels.

⑤ ON-THE-JOB "HOUSEKEEPING"

Clean-up is important at the end of work periods (breaks, lunch, workday). You will be covered with tiny asbestos fibers. Do not shake or blow dust off.



Vacuum your garments before removal and place them in a designated container. Use special changing rooms to change clothes.

UCC 008849

AO4109

⑥ MEDICAL SURVEILLANCE

Proper medical surveillance can show whether employees are receiving adequate protection from the dangers of asbestos.

Surveillance includes...

PHYSICAL EXAM and TESTING

... on a regular basis. Annual check-ups for everyone; more frequent attention recommended for those with heart and lung trouble or those who are exposed to levels in excess of 2 fibers per cc.



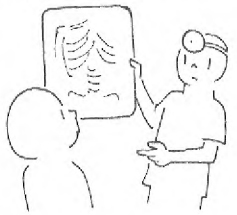
MEDICAL HISTORY RECORDS

Medical history of each employee working with asbestos should be carefully kept. Includes history of exposure to asbestos and other contaminants.



MEDICAL ADVICE

Employees should be informed when dangerous signs appear on tests, or when any job-related problems threaten health.



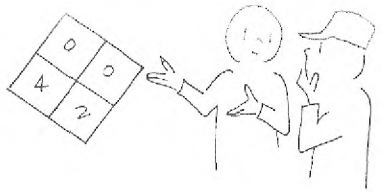
POSITIVE FINDINGS of medical surveillance can result in new job placement, shift rotation, improved work practices, other measures.



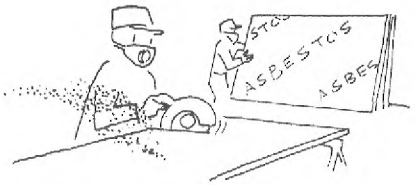
SAFETY ON THE JOB IS EVERYBODY'S BUSINESS



1 KNOW the hazards of your job. Is your exposure direct or indirect? High or low levels? Are there recommended controls?



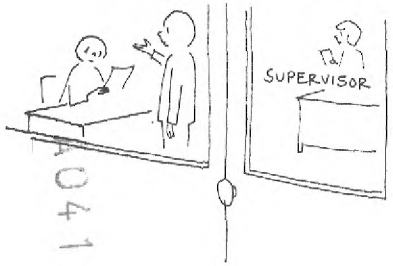
2 WEAR and maintain your Personal Protection Equipment.



3 PRACTICE good on-the-job housekeeping. Use vacuums and dust-collecting equipment.

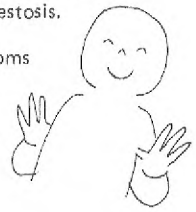


4 REPORT hazardous conditions -- i.e., unusually high dust levels, need for equipment -- to supervisor.



5 CONSIDER your health at all times. Don't work with asbestos if you have lung disease, or any symptoms of asbestosis.

Know the symptoms of cancer and asbestosis.
DON'T SMOKE.

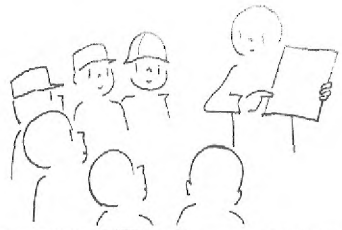


UCC 008850

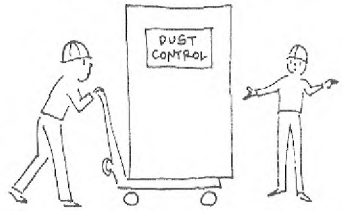
A04110



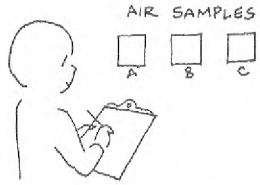
1 ADVISE employees of the dangers of exposure and the necessity of caution and awareness.



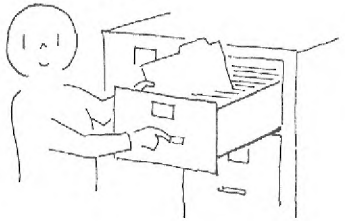
2 SUPPLY modern engineering equipment to provide the healthiest possible working environment.



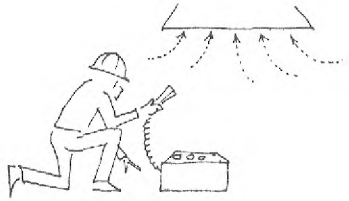
3 MONITOR asbestos dust levels. A sampling of air in work areas should be taken every 6 months.



4 KEEP medical records of each worker exposed to asbestos dust. Also provide regular physical check-ups.



5 TAKE all other necessary precautions to prevent unexpected exposure. Provide for routine testing of ventilation controls.



SO WHAT?

Sooo...

WE CAN REDUCE THE HAZARDS OF ASBESTOS

if everyone does his part...

GOVERNMENT'S JOB

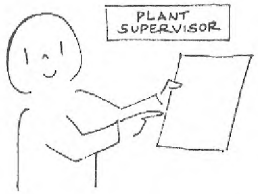


SET SAFETY STANDARDS for proper work conditions.

ENFORCE the standards via periodic inspection.

UPDATE STANDARDS ...as necessary

MANAGEMENT'S JOB



RESEARCH new ways to control asbestos.

PROVIDE safety-equipped work space and facilities.

INSTRUCT employees about dangers, methods of protection.

UCC 00851

AC4 1...

YOUR JOB IS TO KNOW HOW TO PROTECT YOURSELF ON THE JOB!

Learn...

- ✓ What asbestos-containing materials are in use at your workplace.
- ✓ How these materials can be worked.
- ✓ How to maintain control equipment.
- ✓ What other precautions you should take to be safe.

After all...

IT'S YOUR HEALTH & SAFETY and nothing is more **IMPORTANT!**



Prepared in cooperation with the

National Institute for Occupational Safety and Health

Public Health Service, U.S. DHEW

Cincinnati, Ohio 45202

LITHO IN U.S.A.

A04112

UCC 008852