

PROCESS ENGINEERING
SAFETY NEWSLETTER

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ASBESTOS

What is it?

Asbestos is a crystalline form of impure magnesium silicate minerals in the form of fibers. These mineral fibers are obtained from processing naturally occurring silicate mineral rock formations.

Where is it used?

There are about 3000 asbestos containing products manufactured and in use today. Asbestos is used in the construction industry for insulation, floor tiling, roofing, and cement production. The automotive industry uses asbestos in brake and clutch linings and also in the car's undercoating to protect against corrosion. The textile industry uses asbestos to manufacture fireproof clothing, fire-resistant clothing, and other safety related items. Asbestos is used in many miscellaneous applications such as; used to strengthen metals exposed to heat-nose cones of rockets and used at Dow in many tough gasket applications because of its heat resistant durability. Products containing asbestos fall into a wide range of asbestos concentrations of about 1/2 wt.% to 100 wt.% asbestos.

"Phasing out" of asbestos use

Asbestos is very useful but, human exposure to asbestos dust presents potential health hazards. Because of this potential problem many companies have replaced asbestos with alternative compounds. However, there is a tremendous amount of existing sources of asbestos in the home, cars, schools, and workplace. Many companies including Dow are actively eliminating these potential sources of asbestos containing materials. Even some of the schools are doing asbestos removal projects.

Potential health hazards

Asbestos dust can be a health hazard to humans if the air we breathe contains small, sharp asbestos fibers because these fibers can work

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their way into the lung tissue and remain in the lungs. Once lodged in the lungs, these fibers can serve as sites for disease. All the hazards of asbestos are not fully understood and there is still much research needed. The important point is to identify the possibility of asbestos being present and to minimize the airborne concentration of the asbestos as it is removed.

Identification of asbestos

Accurate visual identification of asbestos is difficult. In order to properly identify asbestos from look-alike fibers (fiberglass looks just like asbestos unless viewed under a microscope with polarized light), Dow relies on trained experts in the Industrial Hygiene department to perform physical or chemical tests to determine the presence of asbestos. Bruce Houtman is the Industrial Hygiene contact for 566 building. Industrial Hygiene also provides training on protective equipment required in handling asbestos and can monitor for asbestos.

Guidelines for personal protection from asbestos

Common sense action items you can do at home or work to minimize your exposure potential include;

1. Good housekeeping-don't allow dust to accumulate, asbestos dust has been found in the air in large cities (from cars)
Vacuum your work areas and wash down the area with water-this does an excellent job of removing asbestos from the air.
2. Wear and maintain personal protection equipment such as dust masks.
3. Maintain adequate ventilation when performing dust generating jobs.

Guidelines for handling asbestos at Dow

At Dow, the guidelines for the handling of asbestos containing materials are covered in Safety Standard S-140 and involves the coordination of different Dow resources to do the job safely. Environmental Standard E-500 covers the disposal requirements for asbestos containing materials and Chuck Seelander or Craig Doolittle of Environmental Services are Dow contacts who are familiar with all the regulations.

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HOW SAFE ARE YOU?

1. There is an emergency evacuation plan for process engineering.
How well do you know it?

<u>Exactly</u>	<u>Approximately</u>	<u>General idea</u>	<u>Faint idea</u>	<u>no idea</u>
4	3	2	1	0

2. How often do you stand on a chair when you need to get to something that's out of your reach?

<u>Always</u>	<u>Mostly</u>	<u>Sometimes</u>	<u>Infrequently</u>	<u>Never</u>
0	1	2	3	4

3. How often do you use the stairway handrails?

<u>Always</u>	<u>Mostly</u>	<u>Sometimes</u>	<u>Infrequently</u>	<u>Never</u>
4	3	2	1	0

4. How often do you read a letter, report, or other paper while walking?

<u>Always</u>	<u>Mostly</u>	<u>Sometimes</u>	<u>Infrequently</u>	<u>Never</u>
0	1	2	3	4

5. Do you know exactly where the nearest fire extinguisher is, and how to use it?

<u>Yes</u>	<u>No</u>
4	0

6. When lifting heavy objects, how often do you keep your back straight and lift with your legs?

<u>Always</u>	<u>Mostly</u>	<u>Sometimes</u>	<u>Infrequently</u>	<u>Never</u>
4	3	2	1	0

7. Are all electrical and telephone cords in your office out of the way where people can't trip over them?

<u>Yes</u>	<u>No</u>
4	0

8. Do you have the emergency telephone numbers near your phone?

<u>Yes</u>	<u>No</u>
4	0

9. Do you know the exact location of the nearest fire alarm at work?

<u>Yes</u>	<u>No</u>
4	0

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10. How often do you get help when you need to lift a heavy object?

<u>Always</u>	<u>Mostly</u>	<u>Sometimes</u>	<u>Infrequently</u>	<u>Never</u>
4	3	2	1	0

11. There is a Safety Resource Manual for the process engineering department. Have you read it?

<u>Yes</u>	<u>No</u>
4	0

12. There is a 1989 Safety and Loss Prevention Guideline book for process engineers. Do you know what information it contains?

<u>Yes</u>	<u>No</u>
4	0

13. There is a ventilation control console for 566 building. Do you know where it is located and how to operate it?

<u>Yes</u>	<u>No</u>
4	0

A perfect score is 52 points.

Office areas seem like a very safe place to work since there are few, if any, dangerous chemicals and it is easy to be lulled into a false sense of security. However, the majority of the Dow recordable injuries are non-chemical related. Most of the injuries are more mechanical in nature; cuts, bruises, dust particulates in the eye, back strain from improper lifting. All of these types of injuries can occur in the office areas.

Medical help-Don't take any chances, if you are injured on the job, report to the Medical Department immediately. There have been a few cases in the past where an individual chose not to visit Medical and then the condition worsened with time and a more severe injury resulted.

"PRACTICE MAKES PERFECT IS A MISCONCEPTION, ONLY PERFECT PRACTICE MAKES PERFECT."

All of us are creatures of habit. If we can practice living safely both on and off the job then it will become second-nature and not a forced behavior.

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