

SCRIPT

THE SAFE HANDLING OF ASBESTOS

The videotape you are about to see is the first safety training film made by the operations department of the Celanese Engineering Resins Company. It was designed and enacted by unit personnel to address a specific potential health hazard in the plant. It is our belief that this type of training aid made by our own personnel is, in some instances, a better means of training than purchased or rented "canned" training programs that do not address our specific problems. Where possible, original safety training visual aids such as this one will be used in the future. These films will be retained for periodic review in safety meetings and training of new employees. This film is entitled "THE SAFE HANDLING OF ASBESTOS" It will present an introduction to the hazards of asbestos as well as show you the specific procedures in place at Bishop to minimize these hazards.

Our Safety, Health and Environmental staff tells us that dusts can generally be divided into two types:

Non-fibrogenic and Fibrogenic - Non-fibrogenic dusts usually do not produce significant disease or harmful effects in the lung. Scar tissue in the lung is not formed and any tissue reaction is generally reversable. Examples of non-fibrogenic dusts are Celcon flake and fines from fiberglass.

Fibrogenic Dusts - Do cause scar tissue to be formed in the lungs when inhaled in excessive amounts over long periods of time. Asbestos is an example of a fibrogenic dust. Inhalation of significant amounts of asbestos may cause a progressive and

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irreversible lung disease known as asbestosis. Irreversible means that once an individual develops asbestosis, its permanent and can't be corrected by drugs or therapy. Asbestosis normally only occurs after many years of continuous exposure to high levels of asbestos dust.

Of greater importance, asbestos dust exposure can also cause a type of cancer of the lining of the chest cavity called mesothelioma. This rare disease is often fatal. For reasons not fully understood, smokers who are exposed to asbestos have a greater chance of developing mesothelioma than do non-smokers. Similarly, smokers who are exposed to asbestos have a much higher incidence of developing lung cancer than do non-smokers. In other words, cigarette smoking appears to significantly increase the hazard posed by asbestos.

The American Conference of Governmental Industrial Hygienist or ACGIH has recommended that industrial exposure to asbestos not exceed 2 fibers per cubic centimeter of air over an 8-hour time-weighted average period or 10 fibers per cubic centimeter of air peak exposure for any period 15 minutes or less.

The ACGIH recommendation is aimed at preventing asbestosis. The recommended ACGIH level may or may not provide protection against any lung cancer hazard since the amount of asbestos exposure required to cause lung cancer is unknown.

To protect us, the Bishop policy is to minimize asbestos exposure using engineering controls, protective equipment and approved standard operating procedures. If you do not follow the standard operating procedures, you can contaminate yourself your fellow employees or, take it home and possibly contaminate your family.

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O.K., now that you have the facts of what asbestos can do to you if not handled correctly, let us see how to handle asbestos correctly from the moment you take delivery of it in the warehouse to the cleaning of the last piece of equipment after a production run.

Let's move to the warehouse now and start the movement of asbestos through our system.

009422

PRODUCTION NOTES:
towmotor arriving with pallet-place
in 25 south.
employee inspecting pallet for torn bags
patching torn bag and cleaning area. use wet
and sweep method

COMMENTARY:

SLIDE #: 2

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SLIDE #: 2

We take delivery of asbestos in only one spot in the warehouse. That spot is 25south. Before a pallet of asbestos is moved from 25 south it must be inspected for torn bags. If any torn bags are found, do not move the pallet. Call the warehouse foreman and tell him the pallet contains torn bags. He will have the bags taped up and all of the loose asbestos swept up. After the bags are repaired and the area cleaned, and only then, you will be ready to move the pallet of asbestos out of the warehouse into the unit using a hand operated electric forklift.

009423

	PRODUCTION NOTES:
	forklift being positioned under pallet
	move pallet to elevator
	move pallet into elevator
COMMENTARY:	
SLIDE #: 3	

Carefully position the forklift under the pallet and lift it only high enough to clear the floor. After looking behind to make sure the area is clear, start moving the asbestos to the elevator. Walk forward with the forklift behind you. Do not walk backwards. You may trip and fall and the forklift may run into you causing a severe injury.

009424

PRODUCTION NOTES:

Show trail of "asbestos" (use celcon flares from elevator to 25 south.

show employee wetting down area (do not use high pressure water)

Show sweeping and putting into drums, lidding drum and labeling drum

COMMENTARY:

SLIDE #: 4

Show sweeping and putting into drums,
lidding drum and labeling drum

COMMENTARY:

SLIDE #: 4

009425

	PRODUCTION NOTES:
	show movement from elevator to asbestos storage area. cover entire movement
COMMENTARY:	
SLIDE #: 5	

Move up to the 6th floor of the building. There is only one spot that asbestos can be stored in the building and it is inside a yellow square painted on the floor against the north wall of the 6th floor. DO NOT STORE ASBESTOS anywhere else even for a few minutes because of the danger of someone tearing a bag.

009426

	PRODUCTION NOTES: show trail from storage area to elevator for sign of asbestos on floor
	COMMENTARY: SLIDE #: 6

After positioning the pallet, look at the floor on your back trail to see if any asbestos has been spilled. Clean the area if any spills using the wet and sweep method.

009427

	PRODUCTION NOTES: show full view of employee putting on coveralls COMMENTARY: SLIDE #: 7
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Before making an asbestos blend or inspecting any equipment handling asbestos, you must be fully protected.

The first item you need is a pair of paper coveralls. There may be two types or colors of coveralls in the unit at any time, white or light blue. During the summer months use the white coveralls because they breath better.

009428

	PRODUCTION NOTES: show employee putting on paper boots
COMMENTARY:	
SLIDE #: 8	

The next item needed is the paper boots. This is to keep you from tracking asbestos all over the building after the job is finished.

009429

	PRODUCTION NOTES: show putting on a pair of rubber gloves or just show a pair of hands wearing rubber gloves.
COMMENTARY:	

SLIDE #: 9

The next item is a pair of thin latex or rubber gloves

009430

	PRODUCTION NOTES. show both styles of dust masks with a placecard identifying brand name and number. Show starting to put mask on.
COMMENTARY: SLIDE #: 10	

Then put on the dust mask. We can use two different styles of paper dust masks. Both masks are made by the 3M company. Never, I repeat, Never use an unapproved respirator when handling asbestos. If you have any questions about your respirator, contact your supervisor or the Safety, Health, and Environmental Department. One is a white mask part number 8710 and the other is a yellow mask, part number 9910. Both masks are authorized for use with asbestos, however the yellow one is better and should be used whenever possible.

W. H. George

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	PRODUCTION NOTES: Show employee putting mask on.
	COMMENTARY: SLIDE #: 11

The mask has to be worn with both straps in place to provide the best possible seal. For those of you with long side burns or beards be especially careful of getting a good seal. If you have any question as to your fit, contact the S.H.E. Department for an appointment at the fit testing trailer.

009432

	PRODUCTION NOTES: show arm being taped.
COMMENTARY: SLIDE #: 12	

After all safety equipment is in place you should tape all openings starting with the sleeves to keep asbestos from getting inside the coveralls.

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	PRODUCTION NOTES: show leg being taped.
COMMENTARY: SLIDE #: 13	

Tape the leg openings as well for the same reason

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	PRODUCTION NOTES: show the neck opening being taped COMMENTARY: SLIDE #: 14
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Tape up the neck opening also to complete the job. Don't get the tape too tight here though.

009435

	PRODUCTION NOTES: show full length shot of employee wearing all safety equipment COMMENTARY: SLIDE #: 15
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After you get all of the safety equipment on you will look like this handsome devil.

009436

PRODUCTION NOTES:
show ms905 then show close up of switches
show inlet screen being cleaned

COMMENTARY:

SLIDE 16

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COMMENTARY:

SLIDE 16

Before making an asbestos blend you have to make sure vacuum is available at all needed locations. The first place to start is MS905 the asbestos dycalone. First make sure it is running by checking the switches, then go to the top and check the inlet screen to be sure it is not plugged up. Open the inspection door and look in at the screen. If it has a lot of material on it, clean it off.

009437

	PRODUCTION NOTES: show rubber gloves on dump chamber being inspected for tears
COMMENTARY: SLIDE #: 17	

After cleaning the screen go to the asbestos dump chamber on the 6th floor and inspect the gloves by pulling them out and inspect them for tears or holes. If any holes are found, write an a.v.o. to have them repaired before making an asbestos blend.

009438

	PRODUCTION NOTES: show asbestos dump chamber and vacuum lines connected to it
COMMENTARY: SLIDE #: 18	

If the gloves are ok or after they have been repaired, open the vacuum to the dump chamber to make sure sufficient vacuum is present.

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	PRODUCTION NOTES: show asbestos dump chamber then close up to rubber gloves to show vacuum present. COMMENTARY: SLIDE 19
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You can actually see if you have enough vacuum on the asbestos dump chamber by looking at the rubber gloves attached to the chamber. If there is enough vacuum the gloves will be pulled into the chamber and standing straight out. If there is not enough vacuum the gloves will be hanging limply either on the outside or inside.

009440

	PRODUCTION NOTES: show empty drum being put into position to receive empty asbestos bags. start with door closed then open, drum being put in and door closed
	COMMENTARY: SLIDE #: 20

Before cutting asbestos bags, we must have a drum in place ready to receive the emptybags. Open the far left door and put a drum with a drum liner in place. Depending on the size of the blend, more than one drum may be required. When a drum gets full, stop the operation and change drums. Later in the program, we will show you how to seal, label and dispose of the asbestos containers.

009441

	PRODUCTION NOTES:
	show the loading door, start closed. show employee hitting it and show door being opened
COMMENTARY:	
SLIDE 21	

We are now almost ready to charge the dump chamber with asbestos bags. But to do that, the right hand door has to be opened. When you open this door, if not properly done, asbestos will spill out and get into the air and on the floor. So, before you open the door, hit it a couple of times to dislodge the asbestos then slowly open the door. By opening it slowly, you create an air flow around the edges and the vacuum will pull the excess asbestos into the chamber. This must be done everytime the door is opened.

009442

	PRODUCTION NOTES: show placement of bags in dump chamber and door being closed
COMMENTARY: 3 - 11 - SLIDE # 22	

After the door is open, charge the chamber with as many bags as the blend calls for or if too many for the chamber to hold, as many as the chamber will comfortably hold. then close the door. Repeat this operation as many times as necessary to put the proper number of bags in the blend.

009443

	PRODUCTION NOTES: if needed cut bags if not needed pretend to cut bags
COMMENTARY: SLIDE #: 23	

Insert both arms into the gloves and cut the bags, shake them out and fold them then put them in the drum. Continue to do this until either you fill up the drum or have cut all of the bags needed for the blend.

009444

PRODUCTION NOTES:

show drum being removed from chamber being lidded and ringed. show asbestos label installed. closeup of asbestos label. (close enough to read and long enough to read the bold print)

COMMENTARY:

SLIDE #: 24



PRODUCTION NOTES:

show drum being removed from chamber being lidded and ringed. show asbestos label installed. closeup of asbestos label. (close enough to read and long enough to read the bold print)

COMMENTARY:

SLIDE #: 24



PRODUCTION NOTES:

show drum being removed from chamber being lidded and ringed. show asbestos label installed. closeup of asbestos label. (close enough to read and long enough to read the bold print)

COMMENTARY:

SLIDE #: 24

After you are through cutting bags or the drum has filled up, open the door and remove the drum. Tie the drum liner together and put alid and clamp on the drum. After that, put an asbestos label on the drum lid so that everyone will be aware of what is in the drum.

009445

	PRODUCTION NOTES: show cleaning area
COMMENTARY: SLIDE #: 25	

After all drums have been sealed the entire area must be cleaned. Using a vacuum hose, vacuum the entire floor area around the chamber including the chamber itself. Do not use high pressure air to clean anywhere in this area. If vacuum is not available, wet the floor area and sweep the floor. Put all sweepings into a drum.

009446

	PRODUCTION NOTES: show employee taking off all protective clothing and disposing properly show lidding and labeling drum
COMMENTARY: SLIDE #: 26	

After all the work is finished you must remove all protective clothing before leaving the area. This is done so that no other area is contaminated with asbestos. Pull off all clothing and put it in a drum leaving the dust mask till last. Seal the drum and dispose of it properly.

009447

	PRODUCTION NOTES:
	show moving drums to storage area
COMMENTARY:	
SLIDE GLIDE #: 27	

after area is clean and clothing has been discarded move the drums to the designated drum storage area until they can be removed and put in the land fill dump.

009448

	PRODUCTION NOTES: show polymer feeder
COMMENTARY: SLIDE #: 29	

The second area is the polymer feeder. Make sure the covers are in place, fit tight and the vacuum is on, creating a slight negative pressure. This negative pressure is necessary to keep the dust from escaping from the feeder.

009450

	PRODUCTION NOTES: Show rerun feeder: COMMENTARY: SLIDE #: 30
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The third area of dusting is the discharge end of the rerun feeder. Make sure the cover fits tight and that vacuum is present.

009451

	PRODUCTION NOTES: show polymer feeder
COMMENTARY: SLIDE #: 31	

Occasionally, during a production run a feeder will give trouble by not feeding the right amount. When this happens, The feeder must be rate checked so that maintenance can repair it. When feeding asbestos feed blends, special precautions must be taken to prevent spreading asbestos through the building. All protective clothing must be worn and special care must be taken at the discharge end of the feeder to insure that no dust escapes. The only proper way to perform this operation is the way you are seeing it done now.

009452

	PRODUCTION NOTES: show employee with all protective clothing on
COMMENTARY: SLIDE #: 32	

We have now made the feed blends, cleaned the areas, and checked production equipment for leaks during the production run. Now we get to clean all of the equipment used except for the asbestos dump chamber.

So, lets start by putting all of the protective clothing on.

009453

	PRODUCTION NOTES: show opening vacuum line and closing asbestos dump chamber valve on top of MX322. Show opening both end covers
COMMENTARY: SLIDE #: 33	

The best place to start is at the top. So we start at MX322, the feed blender. First, open the vacuum valve on top of the blender then close the asbestos dump chamber valve. Then open both end covers.

009454

	PRODUCTION NOTES:
	Show employee at switches then blocking in air lines
COMMENTARY:	
SLIDE #: 34	

Open the blender discharge valves. These discharge valves are on a timer which means that they will close again after a preset period of time. To make sure they do not close unexpectedly, block in the air lines to the discharge.

009455

	PRODUCTION NOTES: Show sweeping blender
COMMENTARY: SLIDE #: 35	

Using a long handled broom, carefully sweep the material out of the bottom of the blender to the discharge valves and out of the blender.

009456

	PRODUCTION NOTES: Show opening air lines to dump valves. Push switches to close valves and closing lids.
	COMMENTARY: SLIDE #: 36

When the blender is clean, open the air lines to the discharge valves
and close the valves and both lids.

009457

	PRODUCTION NOTES: Show opening vacuum line on top of tank. Show hooking vacuum line to drum out valve and closing slide valve.
	COMMENTARY:

SLIDE #: 37

COMMENTARY:

SLIDE #: 37

009458

	PRODUCTION NOTES: Show putting hose in top of tank and turning the air on. Show moving the air hose.
COMMENTARY: SCENE SLIDE A: 38	

Next put an air hose in the top of the tank and blow all of the fines and dust out of the tank into the vacuum system. You will need to move the hose down the tank as you clean.

009459

	PRODUCTION NOTES:
	Show removing air hose putting an hose rack.
COMMENTARY:	
SLIDE 39	

When the tank is clean remove the hose and roll it up on the hose rack.
Do not leave it laying on the floor for yourself or some one else to trip over.

009460

	PRODUCTION NOTES: Show removing vacuum hose.
COMMENTARY: SLIDE #: 40	

The last thing to be done on V1632 is to remove the vacuum hose at the bottom. After you remove the hose, using a small vacuum line, vacuum the material from the top of the discharge or slide valve. Then close the drum out valve.

009461

	PRODUCTION NOTES: Show small vacuum cleaner.
COMMENTARY: SLIDE #: 41	

Before cleaning the feeder, clean the small vacuum cleaner. This is done as follows:

Turn the tabs and remove the motor and micro filter and set it aside for the moment. This also exposes the main filter. Gently shake the filter and remove the latches holding the top cover and remove the top cover. Gently remove the bag from the bottom of the cleaner using the wire frame to support the bag so it will not tear. Replace with a new bag and replace the top cover. Pull the micro filter off of the motor housing. If any particles are on the housing wipe them off with a damp cloth and replace the micro filter. Replace the motor housing and lock it in place. Using a philips screwdriver, remove the absolute filter cover and the absolute filter. Inspect the filter for any defects and if ok replace. Be careful of this filter as it costs about \$100. This filter should last a year under normal conditions. Replace the cover and handle.

009462

	PRODUCTION NOTES: Show removing top and side covers
COMMENTARY: SLIDE #: 42	

Before any attempt to clean the feeders are made be sure all of your protective clothing is on. The feeders collect a lot of dust during a run and special care must be taken to clean them. Never use air to clean the feeder even after a nonasbestos run because a small amount of asbestos fibers will be left in the cracks and crevices of the feeder body from previous clean ups. Carefully remove the side panel and top panel and vacuum before setting aside out of the way.

009463

	PRODUCTION NOTES: Show cleaning the feeder using the vacuum cleaner. COMMENTARY: SLIDE #: 48
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Then vacuum the inside of the feeder body. Take your time and do a thorough job. Try not to knock any powder off on the floor. Remember, asbestos fibers will stay suspended in the air for periods up to 24 hours and you will be working in this area frequently.

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	PRODUCTION NOTES: show feeder
COMMENTARY: SLIDE #: 46	

After the body cavity is cleaned, the belt must be taken off and cleaned. When the belt is removed, turn it wrong side out and vacuum it good to get any dust build up off the belt. Turn the belt back right again and lay it to one side while you clean the rollers and scale area of the feeder. Again do a good job and get any dust build up cleaned off so the feeder will feed properly on the next production run.

009465

	PRODUCTION NOTES: Show replacing covers and adjusting vacuum valve.
COMMENTARY: SLIDE #: 45	

After the feeder has been cleaned and the belt replaced, replace the side and top panel. Be sure they seal good and there is sufficient vacuum to maintain a slight negative pressure on feeder. The negative pressure will keep the asbestos dust from puffing out of the feeder during operation. Make sure the floor area around the feeder is clean and protective clothing has been removed and properly disposed of before leaving the area.

009466

	PRODUCTION NOTES:
	Show announcer
COMMENTARY:	
SLIDE #: 46	

This concludes the handling of asbestos in our unit. What you have seen was just one area, the MS409-MS 383 area. It was chosen because there is a higher probability of asbestos exposure here than in phase I. However all safety precautions pertain to Phase I also. You have to control asbestos wherever you find it.

To assist in evaluating asbestos exposures, our Industrial Hygiene staff routinely takes air monitoring samples in the operator's breathing zone while asbestos operations are being performed. Notice that the special monitoring filter is pinned to the lapel and the precision pump draws a uniform flow of air through the filter. After the operator has worn the sampling device for a full shift or for the period of interest, the industrial hygienist can determine exactly how much asbestos the operator was exposed to. Any problem areas resulting in potential exposure can be quickly identified and corrected. Be assured, you'll always be informed of all air monitoring results. Based on actual sampling, asbestos levels average approximately

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0.1 fibers cc in the operator's breathing zone during a regular shift.

The Health Monitoring Program is another component of our asbestos control program. All employees who work with asbestos get an annual examination regardless of age. The exam includes a full chest x-ray, which is aimed at identifying possible changes in the lung. Again, you'll always be fully informed of your examination results. If you have specific questions about your exam, talk to your supervisor and he can arrange for you to see the Plant Nurse.

Let's review a few items we have covered. First, asbestos particles are light and they will remain suspended in the air for periods up to 24 hours and anyone walking through the area will be exposed. Second, repeated heavy exposure can harm you. Third, by following the established SOP manual hazards posed by asbestos will be minimized.

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