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ASBESTOS IN HAND-HELD HAIR DRYERS

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HEARING

BEFORE THE

SUBCOMMITTEE FOR CONSUMERS

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE

NINETY-SIXTH CONGRESS

FIRST SESSION

ON

POSSIBLE THREAT TO THE CONSUMER POSED BY EMISSION OF ASBESTOS FROM CERTAIN HAND-HELD ELECTRIC HAIR DRYERS

APRIL 2, 1979

Serial No. 96–15

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ASBESTOS IN HAND-HELD HAIR DRYERS

MONDAY, APRIL 2, 1979

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE FOR CONSUMERS,
Washington, D.C.

The subcommittee met at 11:10 a.m. in room 1202, Dirksen Senate Office Building, Hon. Wendell H. Ford (chairman of the subcommittee) presiding.

OPENING STATEMENT BY SENATOR FORD

Senator FORD. May I have your attention, please.

We are ready to start with this morning's hearing. I have a brief opening statement, Senator Warner is here with a brief opening statement, and then we will proceed.

Today's hearing will serve as a forum for information on the possible threat to the consumer of asbestos in hand-held hair dryers

Last week, WRC-TV brought this issue to the attention of the public when it was disclosed that private laboratory testing conducted for them confirmed the emission of asbestos fiber from certain hair dryers.

This information about asbestos in hair dryers is potentially devastating in light of the Department of Health, Education, and Welfare's figures associating asbestos with 75,000 cancer deaths every year.

The Consumer Product Safety Commission (CPSC) has estimated that 12.5 million hair dryers manufactured with asbestos insulation remain in use by consumers. I hope to find out today from the Commission how long it will take to determine the certainty and extent of a substantial product hazard and how consumers should react to protect themselves until the Commission has further information.

Senator Warner?

OPENING STATEMENT BY SENATOR WARNER

Senator WARNER. Thank you, Mr. Chairman.

Mr Chairman, the issue that brings us here today is another in a long series of problems that seem to be catching the consuming public off guard. It seems that we cannot go for 1 week without awakening in the morning to another health scare. This is most discouraging and frustrating.

I am pleased that the distinguished chairman of the Consumer Subcommittee, Senator Ford, has acted quickly to hold this hearing and have the record in this matter reviewed in public. The hearing will give consumers and industry a clear idea of where this issue stands.

While I remain open as to what the Congress should do, if anything, it is important for us to know precisely what the appropriate Federal regulatory agencies intend to do. There are several issues which I believe should be addressed to the Consumer Product Safety Commission:

Priority 1: Advise the public immediately with respect to what models on the market today, and what models sold in the past 3 years, have any asbestos. This will enable owners of such models to determine for themselves, pending resolution of whatever recommendations CPSC may make, whether to continue use of their models.

Whether the CPSC responded in a timely and appropriate fashion to information brought to its attention regarding asbestos fibers in hand-held hair dryers.

Whether there is sufficient, accurate, reliable, and statistically significant data available to justify expedited Commission action

Whether the scope of appropriate remedial action to be taken by the Commission should include: A ban under S. 8; injunction under S. 12; or, repair and notification, or refund under S. 15.

Whether the Commission should impose civil penalties on manufacturers who have failed to notify the Commission of the potential hazard involving asbestos insulation in handheld hair dryers.

In this instance, it seems to me the hearings should proceed to isolate, as the chairman has said very clearly, the time constraints within which the appropriate governmental authorities can make an assessment of factual information and advise the public.

Mr. Chairman, I should also urge that the governmental authorities as quickly as possible list in some official fashion all the models which are currently on the market of these hair dryers and those that have been sold in the past 2 or 3 years which contain asbestos. Then, let the public make up its own mind as to how they will guide their respective personal lives between now and the time in which this factual situation can be properly isolated.

I have several questions for the commission to answer on this subject.[1]

Thank you, Mr. Chairman.

Senator FORD. Thank you, Senator.

Our first witness this morning is Ms. Lea Thompson of WRC-TV, and she is accompanied by John Sturm, senior attorney of NBC

Lea, I want to compliment you at the beginning of this hearing this morning, and WRC, for your excellent coverage of this issue And without further ado, if you have a statement, we would be delighted to have it at this time.

[1] See p. 39.

STATEMENT OF LEA THOMPSON, INVESTIGATIVE REPORTER, WRC-TV, WASHINGTON, D.C.; ACCOMPANIED BY JOHN STURM, SENIOR ATTORNEY, NATIONAL BROADCASTING CO.

Ms THOMPSON. Chairman Ford and Senator Warner, good morning

My name is Lea Thompson and I am a consumer reporter for WRC-TV, the NBC-owned and operated station here in Washington

I am pleased to be here at the request of the subcommittee to present a series of investigative reports broadcast last week by channel 4

The report you are about to see discloses for the first time that many hand-held hair dryers on the market today such as these in front of me [indicating] contain asbestos in the barrel lining, which our tests show may discharge into the air when the dryer is used.

As noted in these reports, there is no question that asbestos has been found to be a highly dangerous cancer-causing material, and that exposure to breathable asbestos should be minimized, or preferably eliminated.

Channel 4's investigation began about 9 months ago under the overall supervision of Producer Bob Currie, who is with me today, and who brought the matter to the attention of the investigators team

We were later joined by Reporter Jack Cloherty who appears in our reports

With your permission, Senator, I will now show you our basic report broadcast last Wednesday, March 28.

Senator FORD. We would be delighted to see that and look forward to it.

[Film]

HAIRDRYERS: THE HIDDEN DANGER

The following is a transcript of a report by NewsCenter 4's "The Investigators" on Wednesday, March 28, 1979 at 6 PM.

Speaking Lea Thompson, "The Investigators") This is not a gun . it doesn't shoot bullets but what comes out can be just as deadly.

This investigation started last July when a local photographer sent us his 5 year old hairdryer that he said was blowing fibers all over his prints News Center 4 tested that dryer What we found coming out was asbestos

The asbestos comes from the insulator used to prevent the plastic barrel of the dryer from melting And "The Investigators" have found that this is not an isolated problem

Based on government and industry figures for 1977, there were 25 million hand-held hairdryers in use around the country, but no one in industry or government could or would tell us how many dryers have been made using asbestos components

Yet our survey shows that out of 112 new and used dryers we looked at 24 contained asbestos insulators Most of the used dryers were provided by Goodwill Industries We bought our new dryers at 7 retail chains representing 300 stores in the Washington metropolitan area Twenty percent contained asbestos barrel linings That's one out of every five we looked at.

We confirmed the presence and the extent of the asbestos hazard at EMV Laboratories in Rockville Its scientists are experts in asbestos analysis Insulation samples we selected from the dryers in our survey were examined Samples from 24 different models tested positive for asbestos

Then we selected six models and asked EMV to determine how much asbestos was being blown out

John Wehrung, executive VP—EMV associates) the "older the hairdryer, and the more evident the amount of wear on the insulation material, the greater the amount of the discharge"

(Thompson) The new machines used in the test were a Penney's 1400 watt Pro Gun, a 1000 watt Sears men's dryer, and a mini dryer that goes by the name, Dandy. The used machines included older but similar Sears and Penney's models, and our Photographer's Norelco.

The oldest hairdryers, the Norelco and Penney's put out the highest concentration of asbestos. But in each and every case, the hairdryers discharged asbestos particles.

(Wehrung) "Asbestos particles are being discharged. They're in a respirable size range. It is evident in our electron microscopy studies that they can be broken into many more smaller fibers after being discharged from the hairdryer."

(Thompson) The results of the discharge test are particularly significant because the asbestos is being discharged near the face and usually in the confined environment of a bathroom.

To make matters worse, asbestos that settles in a room can be stirred up by many different means, including further use of a hairdryer.

(Thompson) The Environmental Defense Fund sees itself as a watchdog, trying to get government to clean up matters EDF considers to be a danger to human health. EDF's Dr Joseph Highland says NewCenter 4's tests show the amount of asbestos coming out of hairdryers can be compared to living near an asbestos mine and inhaling its dust . . . to many situations where people are actually working with asbestos . . . or to the levels of asbestos being released from some school ceilings.

(Joe Highland, Environmental Defense Fund) "The levels in hairdryers that are coming out say, in an average weekly use in an average room, come forward in the same range and that's what we're finding in public shools and that level in public schools has been deemed a health hazard and has to be cleaned up according to the Environmental Protection Agency."

(Thompson) This report, done for the Department of Health, Education and Welfare, cites study after study done over the past thirty years which confirms the link between asbestos and cancer, and the fact that if enough is inhaled, it can lead to the deterioration of the lungs . . . or worse—lung cancer, cancer of the chest or abdominal cavity.

The major concern is the accumulative build up of asbestos in the body and there are many manmade sources of asbestos already in the atmosphere. The demolition of older buildings, the release of asbestos from brake linings in cars, gravel containing asbestos on roads and driveways, talcum powder, even urban air itself carries concentrations of asbestos.

(Highland) "The asbestos levels coming out of hairdryers are not insignificant. They're highly significant and they fall within ranges which we've associated in the past with the incidence of disease later in life."

(Thompson) Is any amount of asbestos safe?

(Highland) "No. There's no amount of exposure that can be considered safe. Every level of exposure increases the incidence of possible disease so every level is a concern."

(Thompson) In 1977 the U.S. government estimated that because of past exposures to asbestos 58,000-75,000 cancer deaths a year could be expected. How many of those can be attributed to hairdryers? No one knows. (The younger a person is when he or she is exposed to asbestos, the greater the likelihood of cancer later in life. Studies show that after a period of 30 years from the time of * * *

Further, if one smokes cigarettes and is exposed to asbestos, the chances of getting cancer are greatly increased.

In the case of hairdryers it would be easy to eliminate the use of asbestos. There are other alternatives available, such as aluminum mica, space-age plastics, none of them adding significantly to the cost of a hairdryer. Indeed, in 80 percent of the hairdryers that we've looked at those alternatives are used.

Lets look at exactly where we are. There is no question that asbestos is a cancer causer. You should not breath asbestos. And yet, one out of every 5 new hairdryers we looked at still has an asbestos lining in it. And every single one we tested for discharge spewed out asbestos. There is no need for asbestos insulation in hairdryers. There are plenty of alternatives, but it's there anyway.

So, where is the government in all of this? Well, we asked the U.S. Consumer Product Safety Commission about the use of asbestos in hairdryers nine months ago. We were told then that it wasn't a problem. A report done for the CPSC by Kerney Management Consultants indicates that only one manufacturer uses asbestos and that it is phasing out asbestos in favor of mica.

The manufacturers themselves were the source of information for the Kerney Report. One of them were General Electric. We found three different General Electric hairdr models with asbestos liners on the shelves just two weeks ago. To

show you just how easy it is to make hairdryers without asbestos, Jack Cloherty went to one of the few manufacturers of hairdryers here in the United States.

(Speaking: Jack Cloherty, "The Investigators") We're at American Electric in Culver City, California This firm is one of the few left in the United States that manufactures hairdryers. Most of them now are manufactured in Southeast Asia. But here at American Electric they use mica board—like this—instead of asbestos in their product.

This company took asbestos out of its hairdryers because of the recognized health hazard. American Electric President, Ron Purer:

(Ron Purer, president, American Electric) "We find that our own test of other people's dryers—and I'm not going to mention any brands, that dropping it or rough handling will cause flaking depending on the composition of the asbestos—sometimes with a harder finish or a softer finish—the softer finish's tend to wear with the abrasion of the air and makes the fiber come off."

(Cloherty) The nation's largest producer of hairdryers, Gillette, took asbestos out of its product in 1973. Gillette Director of Product Integrity, Robert Giovacchini:

(Robert Giovacchini, director of Product Integrity, Gillette) "The conclusion we came to was that if there was an alternative material that could be used, which was just as good, why run the risk of having asbestos fibers?

(Cloherty) But asbestos dryers are still on the market. Where do the asbestos come from? Well, most of the ones we tested come from Southeast Asia. The Southeast Asian factories build the dryers to specifications given to them by the American companies. How then does asbestos get into the hairdryers? Well, U.S firms point the finger at Underwriters Lab, the testing firm that sets standards for electrical appliances for government and industry clients.

Even though the hazards of asbestos have been known for years, Underwriters Lab here in Santa Clara, California still calls for asbestos in hand-held dryers. Here on page 17 of the standards it says: "insulating material and actual contact with the heating element shall be asbestos or other material resistant to combustion."

Apparently many manufacturers don't read past the word asbestos although its clear from the U.L. Standards they have other options.

One company that still uses asbestos in its hairdryers is Sears.

(Joanne Mattiace, Sears) "We have looked in the area at hair blowers and in fact a laboratory engineer has taken at least one hair blower, taken a look at it, and determined that based upon the amount of asbestos in the product, as well as the nature of that asbestos it presents no hazard whatsoever."

(Cloherty) So based on that look at one hairdryer, Sears decided to keep selling asbestos-lined dryers in its stores. Its major competitor, Penney's and Montgomery Wards, also use asbestos. And NewsCenter 4 has learned that some General Electric, Hamilton Beach and Conair models still use asbestos as well.

Sunbeam says it stopped making this asbestos-lined dryer in 1976. We found it in a store two weeks ago.

When we asked major retailers why they were still selling hairdryers with asbestos, they either say that they didn't know it was there, or that Underwriters Lab recommended it.

Underwriters Lab officials refused to talk with us about their asbestos standards But interestingly, since we started this investigation, things here at UL began to happen. Now they're talking about issuing a ruling removing the word asbestos. It's still a proposal, and they gave us this prepared statement on it. It concluded that "UL is in the process of prohibiting such use of asbestos in products listed by UL. Substitute materials are available and it is felt to be the public interest to require their use. February 23, 1979."

So in its new proposed standard, UL implies that its old standard was not in the public interest. The question is, why did it take the lab so long to wake to the asbestos problem, and why hasn't the federal government done anything to stop the asbestos threat? Lea Thompson has been trying to get the answer to that question at the Consumer Product Safety Commission.

(Thompson) The U S. Consumer Product Safety Commission lists asbestos as one of its top priorities, yet we have had a hard time getting it to take an interest in this issue. After we had that Norelco tested we turned our findings and the Norelco over to the Commission staff for testing In January we obtained a copy of this CPSC Memo which says it looks like our hairdryer is putting out asbestos but that more testing is needed by electron microscopes.

Regardless, up until last weekend—two months later—nothing further had been done. That's when we turned over our electron microscope test data Then things started to happen at CPSC

Ms. THOMPSON. Yes, sir. And it is in your packet that we gave you.

We have also added to that list a list of the manufacturers that have come forward from both Sears and Montgomery Ward. They have since been added to that list.

Senator FORD. It appears toward the end of your statement there that this could be a mushrooming situation from hand-held hair dryers to the commercial beauty salon to dryers, laundry dryers, a lot of other things. It could mushroom.

You are apparently aware where we may go as it relates to this initial finding?

Ms. THOMPSON. Well, Senator, I really can't speak to any of those. It's only that those are the things that our viewers have asked us about. And I guess the reason we wonder about them is because they are blowing, they are hot, and they do need some sort of an insulator.

We have not looked at them at all.

Senator FORD. Lea, I know you are going above and beyond the call of duty today, and I will try not to keep you on the witness stand too long. You displayed one of the hand-held hair dryers to me that you had disassembled, and I believe that is a General Electric hair dryer. Is that correct?

Ms. THOMPSON. Yes, sir, it is.

Senator FORD. Has that particular hair dryer or GE's hair dryers themselves been tested?

Ms. THOMPSON. No, sir.

We tested in two different ways. It has been tested to find out whether it has asbestos in the barrel. It is indeed asbestos.

Senator FORD. But you have not tested it beyond that to determine whether it was emitting asbestos?

Ms. THOMPSON. Not this particular one. We tested six hair dryers for discharge. It is a very sophisticated electron microscope test that we performed on these. We tested an old and a new Penney's, an old and a new Sears, and the old Norelco which was originally brought to us, and a hair dryer called "The Dandy." It is an import. It is a very small hair dryer.

The reason we only tested the six, to be absolutely honest with you, is it is a rather expensive operation.

Senator FORD. Lea, you talked to the Consumer Product Safety Commission some 9 months ago, and you were told that the Kearney study indicated that only one manufacturer used asbestos.

Why did you decide to go ahead with the test on your own?

Ms. THOMPSON. Because it looked like asbestos, and we just had a gnawing feeling in the back of our minds that it just might be. It was just something that we just couldn't quite put down.

Senator FORD. Were there any other test results available at that time?

Ms. THOMPSON. No, sir. We've had a very difficult time trying to put our finger on the number of hair dryers that use asbestos. It was difficult to get information from manufacturers as well as trading companies. To my knowledge, other than HEW's report on asbestos overall and the dangers of it, there has never been another study except the Kearney study on hair dryers.

Senator FORD. Well, are you convinced that the test procedure resulted in accurate figures?

Ms. THOMPSON. We went to some extent to try to make sure that our test results were accurate. It was important for our story. Because without the test results, obviously we did not have a story.

We worked in conjunction with a number of scientists and were very careful in the way it was set up. It was a brandnew test that had never been done. Hair dryers had never been tested for asbestos discharge before. But we are convinced, and no one has questioned—even the Consumer Product Safety Commission, the manufacturers, the doctor from Mount Sinai Hospital who is an expert on asbestos, no one has questioned the way we did our testing nor the results of that test.

Senator FORD. With the 25 million, I think your program——

Ms. THOMPSON. We said 25 million; I believe the Consumer Product Safety Commission believes there may be as many as 60 million.

Senator FORD. Sixty million? Well, as we do in Congress, let's split that. What do you say? Let's say there's better than 40 million hair dryers out there.

How did the asbestos emission in the new hair dryers with asbestos compare with the old hair dryers with asbestos? Was it the same level of emission from your new hair dryer? Or was it much higher from the old?

Ms. THOMPSON. It was much higher from the old. We have reason to believe, based on the testing, that the older the dryer the more asbestos is being discharged.

Senator FORD. Does the asbestos become dry and hard and flaked and you get larger pieces, or slivers of asbestos more so than from the new insulation?

Ms. THOMPSON. I think it is just a matter of the asbestos just breaking down over a period of time and under a period of use.

We tested basically by fiber bundles and we found that there were just many more fiber bundles coming out of an old dryer—particularly that 5-year-old Norelco and the old Penney's—than there were out of the new.

Senator FORD. Would you repeat that again?

Ms. THOMPSON. We found there were many more fiber bundles which are asbestos bundles, coming out of the older—particularly the 5-year-old Norelco and the Penney's, which was almost that old—than there were out of the brandnew dryers, although in every case, and in all six instances where we did test for discharge in both new and old dryers, there was a discharge of asbestos that would be considered to be dangerous.

Senator FORD. Did all hair dryers tested contain asbestos, emit asbestos during normal operation?

Ms. THOMPSON. I'm sorry?

Senator FORD. Would it have to arrive at a very hot level before it would emit the asbestos? Or, did the dryers emit asbestos in a normal situation where they were used a few moments and then shut off? Was the emission at the same level in either case?

Ms. THOMPSON. I can't confirm that. The test was a 2-l test. The reason it was a 2-hour test was we determined with . . help

of the National Bureau of Standards, the hair dryer is probably used on the average of 2 hours a week.

The way the test was run was a 2-hour test, and we cannot tell you for sure at what level it starts to blow more or less. We can only give you our 2-hour test.

Senator FORD. Lea, a couple of more questions.

If asbestos is accumulating in the air, would other occupants in the home be exposed as well as the user of the hair dryer?

Ms. THOMPSON. We have reason to believe that, of course, the asbestos dust settles to the floor. And if you have a small child, a baby who crawls on the floor, it will push that dust up again, and of course it is respirable, so the baby could get it.

Our scientists tell us—the scientists that we worked with that were consultants to our show, tell us that it could very well be much higher—the levels could be much higher than what we indicated with our test, because there is a cumulative buildup particularly if you use your hair dryer in the same room every day.

Senator FORD. In your investigation, did you find that the price of units containing asbestos differs significantly from the models that did not contain the asbestos liner?

Ms. THOMPSON. No, sir.

Senator FORD. It is basically the same price?

Ms. THOMPSON. Yes, sir.

From what we are told, the alternatives to the use of asbestos—those being mica, aluminum, and space-age plastics—are really no more expensive than the ones with asbestos, and indeed may last longer.

Senator FORD. Did the Consumer Product Safety Commission cooperate with you when you brought your concern to their attention?

Ms. THOMPSON. I think they were cooperative. It just took quite a long time to get them to be interested in the issue.

Senator FORD. What was the reaction of the manufacturers to your investigation, or the distributors of hair dryers?

Ms. THOMPSON. Basically they fall, I think, into a couple of categories.

No. 1, many manufacturers and also importers, trading companies who buy overseas and then supply manufacturers and retailers here in the United States, many were surprised to find that asbestos was being used in the hair dryers.

The other reaction was that Underwriters Laboratory has in its specifications that asbestos is all right to use. So they pointed to that and said, "Underwriters' Laboratory says it's OK, so it must be OK."

Underwriters Laboratory has since, as of February, proposed a new regulation which would ban asbestos in hair dryers.

Senator FORD. In closing, since you have been so close to this situation and been an integral part of the investigation, what is your best advice to the consumer to protect themselves from any possible danger?

Ms. THOMPSON. Well, from a very personal point of view, if I looked down the barrel of a hair dryer and saw that it has asbestos in it, I wouldn't use it.

Senator FORD. You would just do without?

Ms. THOMPSON. Get another dryer that doesn't have asbestos in it, maybe.

Senator FORD. In your opening statement, I understood that several of the major distributors have ceased selling the asbestos hand-held hair dryers, and others, I believe you said Sears Roebuck and one other—Korvettes—said that they would either exchange hair dryers with the consumer, or rebate the purchase price? Is that correct?

Ms. THOMPSON. That is correct.

Sears at this point is not pulling—or at least as of Friday afternoon was not pulling its hair dryers off the shelves. However, it will give a refund to anyone who brings a hair dryer in. They explained that to us as being the kind of situation that they would do for anybody with anything that they were unhappy with.

So they are not making an exception for the hair dryers. They are just saying—if you brought in a dress and you didn't like the dress, they would give you the money back for that, just as they would for a hair dryer, as well.

Senator FORD. Usually a dress has not been used for you to get a credit for it. This is a used product and I think they may be stretching it just a little bit further than the normal exchange.

Ms. THOMPSON. Oh, sure.

Senator FORD. Lea, we may have some additional questions that we'd like to have for the record. If we do, we will submit those to you in writing and ask that you answer those at your convenience, but as soon as possible, if that would be suitable?

Ms. THOMPSON. Yes, sir, I would be glad to do it.

Senator FORD. You have been a very fine witness, and I hope that we can only carry out what you intend here.

I think your intent is to eliminate the cancer-causing problems that might be in everybody's home today, and it may go even further than the hand-held hair dryer. So we are grateful to you and to WRC, and look forward to working with you in the future.

Thank you very, very much.

Ms. THOMPSON. Thank you for your concern, Mr. Chairman.

[The material referred to follows:]

HAIR DRYERS: THE HIDDEN DANGER

"The Investigators," the investigative unit of WRC-TV, the NBC-owned station in Washington, D C today disclosed that test results show hand-held hair dryers lined with asbestos can pose a serious health hazard

Lab tests commissioned by NewsCenter 4 determined that the asbestos fibers can be discharged when the hair dryer is in use Asbestos has been found to be a powerful cancer-causing substance by five U.S government agencies.

NewsCenter 4 investigative reporters Lea Thompson and Jack Cloherty found that of the blow-dryers on the market in the Washington area that were tested, 20 percent contained asbestos And the U.S. Consumer Product Safety Commission estimates that 20 to 25 percent of the 50 million blow dryers in use nationwide use the heat-resistant material

The investigation began nine months ago when a local photographer told Bob Currie, the producer of "The Investigators" that he noticed small, fiber-like particles clinging to photos he dried with a hand-held dryer. Tests at EMV labs in Rockville, Maryland not only showed those particles to be asbestos, but also revealed that they were in the size range that would allow them to be easily inhaled into the lungs.

"The Investigators" then alerted the U S Consumer Product Safety Commission to the potential hazard. Nine months earlier, the CPSC had to[illegible]e unit that asbestos in hair dryers was "no problem " But because of the test r[illegible] available to

them by NewsCenter 4, the CPSC has indicated it now plans to announce a full-scale investigation into the hidden danger of hair dryers.

Underwriters Laboratories, the firm that sets standards for personal grooming appliances, also told NewsCenter 4 it plans to take action. Many hair dryers manufacturers told "The Investigators" that they used asbestos in their dryers because the U.L. Standards allowed it. After being informed of the NewsCenter 4 findings U L. issued a new, proposed standard that would ban the use of asbestos in hair dryers

For further information contact David Nuell, Director of News for WRC-TV at 686-4111.

Hair Dryers: The Hidden Danger

In a report broadcast by WRC-TV, the NBC owned and operated station in Washington, D.C., on March 28, 1979, it was disclosed that hand-held hair dryers lined with asbestos can pose a serious health hazard.

Laboratory tests commissioned by NewsCenter 4's "The Investigators" determined that the asbestos fibers can be discharged when the hair dryer is in use. There is no definitive list of which hairdryers contain the asbestos linings. However, "The Investigators" surveyed retail outlets representing more than 300 stores in the Washington, D.C. metropolitan area. A total of 24 different models tested by EMV Laboratories in Rockville, Maryland were found to contain an asbestos lining. *This* does not necessarily mean these models discharge asbestos particles. It does suggest though, that there is a potential for such discharge.

Conair 1200 Model 065
Dandy, FS-344 (mini)
Davar (mini)
General Electric Power Turbo 1200, Pro 10/5115-013
General Electric Super Pro 1400, Pro 6/5112-005
General Electric Super Turbo 1400, Pro 11/5116-005
Hamilton Beach 1200, Model 480
Hamilton Beach Groomer II, Model 423
Nobel (mini)
Norelco 1000, Model HB 1700
Penney's Professional Type 1000, Model 1050A
Penney's 1000 Watt Rotary, Model 1121
Penney's 1200, Retail No. 064-1190
Penney's 1400, Retail No. 064-1180
Sanyei Mighty 1000, Model E-2095
Sears Men's 1000, Model 253-6314
Sears Men's 1000, Model 253-6385
Sears Women's 1000, Model 253-8714
Sears Women's 1000, Model 253-8736
Sears Women's 1000, Model 253-8754
Sunbeam Professionaire 1000, No. 52-9K
Vornado, Model E42813
Wards 1050, Model 52-6 196368
Wards 1250, Model 52-6 19367
Wards Variable Power 1400, Model 52-6 19361

On March 30, 1979 several retailers called NewsCenter 4 to inform us of the following models which also contain asbestos.

Sears gave us these model numbers: 253-6323; 253-6369; 253-8700; 253-8715; 253-8738; 253-8782, and 253-8783.

Montgomery Wards also found another model that we had not identified: 52-19363.

These models contain asbestos and are listed here in addition to the models that WRC-TV identified.

Consultant Report to Contact 4 (WRC), Asbestos Discharge From Six Hairdryers in a Two-Hour Test, March 19, 1979—Submitted by EMV Associates, Inc., D. Kent Shaffer, Staff Chemist and John M. Wehrung, Executive Vice President.

SUMMARY

Six hairdryers were investigated for discharge of asbestos in a two-hour test. In each instance the effluent was bubbled into water which then was filtered and examined in a[n] electron microscope at magnifications of 1500X and 15,000X. The hairdryers tested included three new units (Sears 1000, Penney's 1400 and Dandy mini) and three used units (Norelco 1000, Penney's 1000 and Sears 1000)

Fiber bundles of asbestos were discharged from each unit tested These ranged in diameter from one to seven microns and in length from 20 to 150 microns. Fibrils of asbestos from ultimate size to one micron in diameter were not detected. In the new hairdryers and in one used unit, fiber bundle discharge rate was 30 to 87 per minute, while two of the used units had discharge rates of 570 to 868 per minute.

The basic conclusions that may be drawn from the study are 1) that hairdryers utilizing asbestos as an insulation material are point sources of asbestos fiber bundles in the environment and 2) that the rate of asbestos discharge increases with the age of the hairdryer.

BACKGROUND

In conjunction with Mr. Robert Currie of Contact 4 (WRC), EMV Associates carried our a preliminary investigation as to the nature of dust emitted from a used hairdryer. Analysis of the dust revealed it to be asbestos; its source was determined to be asbestos insulation used around the heating element in the hairdryer.

These results prompted further analysis of insulation in hairdryers obtained by Contact 4 In most instances, the insulation was found to be the chrysotile variety of asbestos

A contract was subsequently initiated by Contact 4 with EMV Associates in which six hairdryers known to contain asbestos insulation were to be investigated as to quantity and fiber dimensions of asbestos particles emitted Three of the units were new and the other three were used The brands and types are listed in Table 1.

MATERIALS AND METHODS

So as to maintain the speed of air flow in the hairdryer and to collect as many of the small particulates as possible, it was decided to bubble the effluent through pre-filtered distilled water. This was accomplished by taping a six-inch extension to the hairdryer nozzle and placing the extension mouth at the surface of the water held in a cleaned two-gallon container. A plastic shroud at the end of the extension prevented loss of water during operation of the hairdryer and provided a sheathing effect to minimize loss of particulates in the escaping air.

Each hairdryer was operated continuously for a period of two hours at maximum speed and cool temperature. The test water containing particulates was then filtered through a 47-micron diameter, 0 2 micron pore size Nuclepore filter. This filter was examined in a scanning electron microscope (SEM) coupled to an energy dispersive x-ray analyzer (EDXA). The examination was conducted at 1500X (100 fields) and at 15,000X (300 fields) After completion of the examination, another portion of the same filter was examined at 1500X (100 fields). During examination, when a fibrous particle was detected the EDXA was used to identify its chemical make-up. The chemical constituents, coupled with morphological information provided by SEM, was the means of identifying asbestos by type.

Quality control was provided by conduction of tests under a filtered laminar-flow hood In addition, control samples for the water and for the laboratory air were obtained. (In all instances these were negative.)

To confirm the presence of asbestos in the insulation a small (4mm²) portion of this material was removed from the hairdryer and examined with SEM/EDXA for asbestos presence In some instances, this had been performed on test hairdryers prior to testing therefore, in these hairdryers the cut edges were sealed with glue (prior to testing).

RESULTS

Asbestos fiber bundles of the chrysotile variety were detected in all six hairdryer samples. The sizes ranged in diameter from one to seven microns and in length from 20 to 150 microns The number of bundles detected from each unit is listed in Table 1. Representative SEM micrographs and EDXA spectra are shown in Figures 1 to 9.

Because of the splayed ends of most of the bundles, it was difficult to obtain dimensional data from which an accurate estimate of mass could be made Nevertheless, an estimate of mass discharge was made based on an average particle size of two microns in width, 30 microns in length and a specific gravity of 2 6. The calculated results are listed in Table 1

The examination at 15,000X did not reveal the presence of asbestos fibers below one micron in diameter

For the purpose of reproducibility of analysis, a second set of data wa[s] [ex]amined at 1500X, and this is listed in Table 1 as Analysis B (the initial being [Ana]lysis A)