FILE NAME: ! ăōŜăűƨă ƛƴ I l·ƛŊ 5ŊèŜŊă ó I 5ú

DATE: мфтф a l·ℕ нф

DOC#: I 5лнм

5OCUMENT DESCRIPTION: tŜűƛűƛƨƴűƨ / t { / ₹Ŋƨϒ 95C w9 tŊƨKƛōƛűűƛyƎ űKŜ CdzŊűKŜŊ { l·fŜ ƨ₹ I l·ƛŊ 5ŊèŜŊă /ƨyűl·ƛyƛyƎ ! ăōŜăűƨă a l·űŜŊƛl·fă

Environmental
Defense
Fund

1525 18th Street, NW, Washington, D.C. 20036 — 202/8

RECEIVED

APR 03 1979

GIMFL

BEFORE THE

CONSUMER PRODUCT SAFETY COMMISSION

March 29, 1979

PETITION OF THE ENVIRONMENTAL DEFENSE FUND FOR AN ORDER UNDER §15(e) and §15(d) OF THE CONSUMER PRODUCT SAFETY ACT

PROHIBITING THE FURTHER SALE OF HAIR DRYERS CONTAINING ASBESTOS MATERIALS AND REQUIRING THE REPAIR OR REPLACEMENT OF SUCH DRYERS WHICH HAVE ALREADY BEEN DISTRIBUTED IN COMMERCE

G 00198

TABLE OF CONTENTS

I. Summary ... 1

II. Jurisdiction ... 4

III. Description of Petitioner ... 5

IV. Scientific Basis for Regulating Asbestos from Hand-Held Hair Dryers ... 5

A. Asbestos Is a Potent Human Carcinogen Causing Cancer After Brief Exposures and Low Level Exposures ... 5

B. Significant Quantities of Asbestos May Be Released During the Normal Use of Hand-Held Hair Dryers ... 7

C. The Use of an Asbestos Insulated Hair Dryer May Pose a Significant Health Hazard to the User ... 16

D. The Use of Asbestos Insulated Hair Dryers May Pose a Significant Health Hazard Even to Those Who Do Not Themselves Use Such Products ... 23

E. The Scope of the Problem ... 25

F. Alternative Dryers Which Do Not Use Asbestos Already Are Available at Comparable Cost ... 30

V. Legal Analysis ... 33

A. Regulation of Hair Dryers Containing Asbestos Under the Consumer Product Safety Act Rather than Under the Federal Hazardous Substances Act Is in the Public Interest ... 33

B. Hair Dryers Which Contain Asbestos Materials Are Defective Within the Meaning of §15(a)(2) ... 34

C. The Use of Asbestos in Hair Dryers Constitutes a Product Defect Which Creates a Substantial Risk of Injury to the Public ... 36

G 00199

D. Section 15(c) Gives the Commission Authority To Require Public Notification of the Hazard Presented by Such Products 38

E. The Commission Has the Authority Under §15(d) To Prohibit the Further Sale or Manufacture of Such Dryers as Well as To Require Manufacturers, Distributors, or Retailers To Either Repair, Replace, or Refund the Purchase Price of Such Products 40

F. The Commission Has and Should Use Its Authority Under §15(f) To Designate a Single Representative To Represent Parties with a Common Interest in Such a Hearing in Order To Expedite the Proceedings 43

VII. Conclusion 45

Tables

Table 1: Asbestos Discharged from Hand Held Hairdryers in Two-Hour Test 15

Table 2: Rates of Asbestos Release from Tested Hair Dryers 17

Table 3: Room Concentrations of Asbestos as a Function of Dryer Use 20

Table 4: Comparison of Asbestos Levels Found in Various Environments 21

Table 5: Number of Dryers Sold 25

Table 6: Survey of Used Dryers 27

Table 7: Survey of New Dryers Currently Available for Sale 28

I. Summary

This petition requests the Consumer Product Safety Commission pursuant to §§15(c) and 15(d) of the Consumer Product Safety Act to (1) make a determination pursuant to §15(c) that hair dryers containing asbestos materials present a "substantial product hazard"; (2) require the manufacturers distributors or retailers of such products to give public notice of the hazard presented by such dryers and to the extent practical, to notify every person who has purchased such dryer of the hazard; (3) to issue an order pursuant to §15(d) prohibiting the further manufacture or sale of dryers containing asbestos, and (4) require the repair or replacement of such dryers which are already in the hands of consumers.

The petition presents evidence that hair dryers containing asbestos insulation materials can emit substantial quantities of asbestos during normal operation. In some cases, the levels which have been measured approach those which have been reported in cases of occupational exposure. These levels create a significantly increased risk of mesothelioma and lung cancer in those who are exposed. Furthermore, the petition presents evidence that asbestos released from such dryers can accumulate in the home and is constantly resuspended as a result of normal household activity.

Petitioners present evidence that acceptable alternatives for the use of asbestos in such dryers are available, such as the use of mica. Furthermore, petitioners present evidence that some manufacturers have produced hair dryers which do not

require insulation materials because they are made out of heat resistant plastics. Petitioners argue that the availability of such alternatives dictates immediate action to remove asbestos-containing hair dryers from the market and to require the repair or replacement of existing dryers already in the hands of consumers.

Due to the potential magnitude of the problem, petitioners request that the Commission initiate action by no later than May 1, 1979. If the Commission determines that final action on this request cannot be completed for several months, petitioners request the Commission to consider seeking a preliminary injunction from a U.S. District Court under §15(g) of the Consumer Product Safety Act, which would prohibit the further sale of such dryers until such time as the Commission can complete the necessary proceedings under §§15(c), (d) and (f).

II. Jurisdiction

This petition is filed pursuant to §15 of the Consumer Product Safety Act, 15 U.S.C. §2054, and §4(e) of the Administrative Procedure Act (APA), 5 U.S.C. §553(e). Section 4(e) of the APA gives any person the right to petition for a rule or an order, such as that authorized by §15 of the Consumer Product Safety Act.

Section 15(c) of the Consumer Product Safety Act gives the Commission the authority to determine, after affording interested persons an opportunity for a hearing in accordance with subsection (f), that a product distributed in commerce

presents a substantial product hazard. Section 15(a) defines "substantial product hazard" as "(2) a product defect which (because of the pattern of the defect, the number of defective products distributed in commerce, the severity of the risk, or otherwise) creates a substantial risk of injury to the public." 15 U.S.C. §2064(a)(2).

If the Commission makes such a finding, it has the authority to order any manufacturer, distributor or retailer of the product to take one or more of the following actions:

(1) to give public notice of the defect or failure to comply,

(2) to mail notice to each person who is a manufacturer, distributor or retailer of such product, and

(3) to mail notice to every person to whom the person required to give notice knows such product was delivered or sold.

Furthermore, §15(d) gives the Commission the authority, after making such a determination that a product presents a substantial product hazard, to order any manufacturer, distributor or retailer to take one or more of the following actions:

(1) to bring such product into conformity with the applicable consumer product safety rule or to repair the defect in such product,

(2) to replace such product with a like or equivalent product which complies with the applicable consumer product safety rule or which does not contain the defect, and

(3) refund the purchase price of such product (less a reasonable allowance for use, if such product has been in the possession of a consumer for one year or more (A) at the time of public notice under subsection (c) of this section or (B) at the time the consumer receives actual notice of the defect or noncompliance).

Finally, the Commission may prohibit the further sale or manufacture of the product.

III. Description of Petitioner

Petitioner, Environmental Defense Fund, Inc. (EDF), is a nonprofit, tax-exempt corporation organized under the laws of the State of New York, devoted to the preservation and improvement of the environment. One of the organization's primary goals is the protection of the public from carcinogens and other toxic substances. Through its Toxic Chemicals Program, EDF seeks to eliminate carcinogens from the air, water, and consumer products. The organization has over 45,000 members nationwide, including lawyers, scientists, and other persons committed to the protection of the public health and environment. A substantial number of EDF's members are exposed to asbestos from the normal operation of hair dryers containing such material. Hence, they face increased risk of mesothelioma and lung cancer. The organization has offices and is doing business at 1525 18th Street, N.W., Washington, D.C.; 475 Park Avenue South, New York City, New York; 1657 Pennsylvania Street, Denver, Colorado; and 2606 Dwight Way, Berkeley, California.

IV. Scientific Basis for Regulating Asbestos from Hand-held Hair Dryers

A. Asbestos is a Potent Human Carcinogen Causing Cancer After Brief Exposures and Low Level Exposures

Asbestos is a potent animal and human cancer-causing agent. It has been shown to cause cancer in a variety of animal species even after only extremely short exposure periods. For example, Wagner et al. 1/ exposed groups of CD Wistar rats by inhalation to Rhodesian and Canadian chrysotile at a concentration of 12 mg/m^3 respirable dust. Forty-one percent of the animals exposed to the asbestos had cancer. Both mesothelioma and lung tumors were observed. As little as 7 hours of exposure caused neoplasia. In all, about 20 other experiments confirm the link between chrysotile and cancer in animals. 2/

The evidence linking asbestos exposure to cancer in humans is equally strong. In 1935, Lynch and Smith 3/ first observed that lung cancer was associated with asbestos exposure. It was the early 1950's when epidemiologists conclusively demonstrated the association between certain cancers and exposure to asbestos. Since that time, the association has been repeatedly confirmed. For example, Selikoff 4/, who pioneered in the study of asbestos-related disease, observed that approximately 10 percent of the deaths among asbestos insulation workers in recent years has been due to cancer, compared to less than 20 percent in the general population. In one study of 632 asbestos insulation workers, nearly 4 times as many deaths occurred from cancer as expected (7 times more lung cancer, 3 times more stomach and esophageal cancer, and 3 times more colon cancer than expected). In addition, nearly 8 percent of the deaths among

the workers were from malignant mesothelioma of the pleura (lining of the chest) or peritoneum (lining of the abdomen). Mesothelioma is an exceedingly rare, always fatal cancer with nearly zero expectation in the general population. Asbestos workers who smoked cigarettes had approximately 92 times the risk of dying of lung cancer than did workers of equal age who neither smoked nor worked with asbestos. Asbestos workers who smoked had 8 times the lung cancer risk of other smokers. Selikoff observed similar relationships among other insulation workers and among asbestos factory workers.

McDonald et al.[5] reported an increased lung cancer rate for workers employed in chrysotile mines and mills. Those workers most heavily exposed had about a 5-fold increased risk of lung cancer compared to those least exposed. Kogan et al.[6] reported that male workers in asbestos mills over the age of 50 had a 6-fold increase in lung cancer compared to the general population. Women exhibited a 40-fold increase. An excess in respiratory cancer was described by Wagoner et al.[7] for workers in a major manufacturing complex using predominantly chrysotile asbestos. Similarly, Enterline and Henderson[8] found that workers exposed only to chrysotile had a respiratory cancer risk 2.4 times that expected.

Similar increases in cancer risks have been found for workers exposed to other types of asbestos or to chrysotile in combination with other types of asbestos. Selikoff et al.[9] found a 7-fold excess of lung cancer in insulation workers exposed to chrysotile and amosite asbestos. Studies by Newhouse and Berry[10] have indicated an increased mesothelioma rate among workers exposed to mixed

asbestos fibers. Additional evidence confirming the association between mesothelioma and asbestos exposure comes from data from Australia, Germany, Italy, Africa, Netherlands and the United Kingdom.[11]

In addition to those workers who work directly with asbestos or asbestos products, Menck and Henderson[12] have suggested a link between increased lung cancer rates and exposure to asbestos among ship and shipyard workers (including stevedores), clothing ironers, plasterers, drywall workers, electricians, and plumbers. In view of the numerous studies on the association between exposure to asbestos and cancer,[13] it is now widely accepted that inhaled asbestos is a potent carcinogen.

Indeed, the U.S. Government has estimated[14] that between 58,000 and 75,000 cancer deaths a year will be attributable to asbestos. This is 13-18% of all cancer deaths expected in the U.S. in the foreseeable future, a truly staggering figure.

Epidemiological studies have also shown increased cancer rates among individuals exposed to low levels of asbestos or exposed to asbestos for only brief periods of time. The Wagoner[15] and Newhouse and Berry[16] studies demonstrated increased cancer levels for workers who had worked with asbestos for less than two years. Studies summarized by the International Association for Research on Cancer have shown an association between asbestos and mesothelioma after exposure as brief as one day.[17]

In one of the first studies which demonstrated that brief

occupational exposure to asbestos could lead to cancer. Newhouse and Thompson[18] investigated 83 cases of mesothelioma that had occurred over a 50-year period, matching these cases with controls that did not have mesothelioma. A clear association with occupational, domestic and neighborhood asbestos exposure was demonstrated for the mesothelioma cases, and occupational exposures for men were recorded for as little as 5 weeks of exposure, and for women for as little as 6 months of exposure.

In a recent study of 3933 men who worked at an amosite asbestos factory, Seidman, Lilis, and Selikoff[19] observed that workers who were employed for less than one month had a slight excess rate of lung cancer, and for those who worked one month, the lung cancer rate was approximately 1.5 times the expected rate. Workers who were employed for less than 3 months experienced nearly a 4-fold increase over that expected for lung cancer after 30 years from onset of work.[20] In a similar study of 246 cases of mesothelioma, Greenberg and Lloyd-Davies[21] found that 12 percent of the cases with occupational exposure had been exposed for under 5 years, and in one case for only 3 weeks.

Epidemiological studies have also demonstrated a correlation between cancer and asbestos exposure for people living in the vicinity of facilities handling asbestos and persons living in the same houses as asbestos workers, people who were likely exposed to levels of asbestos much lower than workers.

Of 87 cases of mesothelioma identified by Wagoner[22] by 1959, the majority of the patients had not actually worked with asbestos.

Indeed, only 12 had industrial exposure. The rest had lived in the vicinity of asbestos mines and mills, some having left the asbestos fields as young children, or in their teens. In some of the cases, the exposure was brief. For example, the youngest case diagnosed, age 21, was apparently only exposed to asbestos for a very brief time as an infant when he was taken to a "cobbing" site by his mother from the age of 6 weeks until he was weaned. In another case, a woman was born in a town on the asbestos fields, left at the age of 5, and was in good health until 55, when she developed pleural mesothelioma.

In the study cited earlier, Newhouse and Thompson[23] observed that 11 of their 83 mesothelioma cases lived within one-half mile of an asbestos factory, compared to 5 individuals in the control group. Three of the mesothelioma cases, all female, lived within one-half mile of the factory for only 7 years before the age of 14. Of the other 8 cases, one male lived the first 16 years of his life within one-half mile of the factory while 6 of the remaining 7 were females who were between the ages of 6 and 13 years when the factory opened and remained in the area for between 3 and 7 years.

Similarly, Lieben and Pistawka[24] found that out of 42 cases of mesothelioma investigated, 8 lived or worked in the vicinity of an asbestos plant, while Greenberg and Lloyd-Davies[25] identified 13 cases (5%) out of 246 cases studied that were associated with exposure by neighborhood or domestic sources of asbestos. Martischnig et al[26] found that 58 out of 201 men with lung cancer admitted to a thoracic surgical center gave a history of exposure to asbestos, compared with only 29 of the matched controls, although

none were responsibly "asbestos workers" and none had evidence o

asbesto

Newhouse and Thompson[27] also identified mesothelioma among persons who lived in the same household as asbestos workers. Five ve percent of the mesothelioma cases (compared to one percent of the controls) involved relatives who lived in the same household with an asbestos worker. In this group, the most usual history of e posure was that of a wife who washed her husband's dungarees or work clothes. The two men in this group, when boys of 8 or 9 years of age, had sisters who were working at an asbestos factory.

Similarly, of the 42 cases of mesothelioma studied by Lieben and Piscitelli,[28] three were family members of asbestos workers.

Further evidence supporting this association was provided by Harrington, Jamplis, and Differding,[29] who reported on a case of husband and wife who both died of mesothelioma in 1971 and 1973 respectively. The husband worked with asbestos from 1941 to 19 while the wife's only known exposure was from washing her husband dusty clothing.

In a recent study, Anderson et al.[30] examined 326 individuals with no occupational exposure to asbestos, but who lived in a home with a member who worked at an amosite asbestos products factory for varying times between 1941 and 1954. These 326 individuals were clinically examined for prevalence of early asbestos-related health effects such as the radiographic changes of parenchymal fibrosis, pleural fibrosis, and calcification. The length of employment of the family members in this group who worked in the

amosite plant was from one day to 13 years, with 50% of the group coming from households in which the workers' length of employment (and thus active contamination of the home) was less than one year.

Of the individuals examined, all of whom considered themselves to be healthy, 35 percent had chest x-ray abnormalities with a predominance of pleural changes (fibrosis, and/or calcification). Four of the individuals had already developed pleural mesotheliomas. Although it was not possible to predict how many of these individuals with abnormal chest x-rays would eventually develop mesothelioma, the recent study by Edge[31] suggests the number may be high. Edge observed that of 235 former shipyard workers who had pleural fibrosis and/or calcification on their chest x-rays in 1970, 22% of the 20 deaths that occurred between 1970 and 1973 were from mesothelioma. Vianna and Polan[32] studied the occupational histories of 57 females with mesothelioma. They showed that a significantly greater number of husbands and fathers of cases than of controls worked in asbestos related industries. The relative risk for such indirect exposure was 10.

The evidence summarized here clearly demonstrates that asbestos in general and chrysotile asbestos in particular are potent human carcinogens. Moreover, no safe or no-effect level for human exposure to asbestos cannot be determined. This scientific fact must govern any regulation whose goal is to protect the public health from cancers related to asbestos exposure. Only no exposure can guarantee no cancer. The no-threshold concept for asbestos and other carcinogens has been accepted by scientists, government regulatory agencies and the courts. For example, the Occupational Safety and Health

Administration's proposed cancer policy concludes:

> Thus, there is a qualitative presumption of carcinogenicity that must be established for a substance, any exposure to that substance must be considered to be attended by risk when considering any given population. No exception to this point has yet been demonstrated....Hence, today it does not seem feasible to predict a "finite" safe level for a carcinogen to an individual human, let alone for a population, composed as we are of aggregates of genetically heterogenous individuals with widely varying predispositions and susceptibilities.33/

Specifically concerning asbestos, the National Institute of Occupational Safety and Health concludes:

> Evaluation of all human data provides no evidence for a threshold or for a "safe" level of asbestos exposure. Based on the available data, no assessment can presently be made concerning the existence of a level of asbestos exposure below which an increased risk of cancer could not be detected.34/
>
> Only a ban on the use of asbestos can ensure complete protection against this mineral's carcinogenic effect.35/

The IARC monograph on asbestos concludes:

> At present it is not possible to assess whether there is a level of exposure in humans below which an increased risk of cancer could not occur.36/

B. Significant Quantities of Asbestos May Be Released During the Normal Use of Hand-Held Hairdryers

Hand held hairdryers consist basically of a fan blowing air past a heating element. Because the barrel of the dryer is usually narrow, an insulating liner is sometimes needed to protect the plastic barrel from the heat of the heating element. A variety of materials have been used as insulating liners in hairdryers. A substantial number of hairdryers have asbestos paper insulating liners. In the course of normal operation of these dryers, the asbestos paper can be damaged and significant amounts of asbestos released into the air.

Recent tests by EMV Associates of Rockville, Maryland document asbestos release during the normal operation of certain hairdryers. [1/] Six hairdryers were chosen for analysis. Three were new dryers, while the other three were judged to have been used for about 1 years. All six dryers had asbestos liners. This was confirmed b examining a small section of the liner by the SEM/EDXA method described below. Where this confirmation took place before the test for asbestos release, the cut edges of the liner were sealed with glue.

The air emitted over a two-hour test period by each of the dryers was bubbled into prefiltered water which was then filtered again and the filter examined under an electron microscope for asbestos content. This collection technique was chosen in order to capture any asbestos that might have been released and to allow a normal air flow through the dryer. Since the volume of air passed through the dryer was generally large, up to 0.9 cubic meters per minute, it was impossible to directly filter the air emitted.

In each case, the air from the dryer was bubbled into two gallons of water. After two hours of continuous dryer use at maximum fan speed with the heating element on, the test water was filtered through a 47-micron diameter, 0.2 micron pore size Nuclepore filter. The filter was examined in a scanning electron microscope (SEM) coupled to an energy dispersive x-ray analyzer (EDXA). The examination was conducted at 1500X (power). During the 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

G 00213

identifying asbestos by type.

Quality control was provided by conducting 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 the control samples did not contain asbestos.

The results of the tests were striking. Asbestos fiber bundles of the chrysotile variety were detected on the filters from all six hairdryers. The sizes ranged in diameter from one to seven microns and in length from 10 to 150 microns. The number of bundles and mass of asbestos released from each unit is listed in Table I. (Because of the splayed ends of most of the bundles, it was difficult to obtain dimensional data from which to estimate with certainty the mass of asbestos released. An estimate of mass discharge was made, however, based on an average particle size of two microns in width, 30 microns in length and a specific gravity of 2.6. The mass of such a particle was calculated at 0.52 ng. To further confirm the reproducibility of the analysis, two sets of data were obtained at 1500X. These are listed separately in Table I as Analysis A and Analysis B. As can be seen, the agreement between these two observations is excellent, lending further support to the accuracy of the results obtained.)

The mass of asbestos released into the water bath was highest for the two dryers (the Norelco and Penney's) which were oldest. These dryers were judged, based on production data, to be four to five years old. The used Sears dryer was roughly one year old.

The three new dryers also released significant amounts of asbestos.

TABLE 1

Asbestos Discharged from Hand-Held Hairdryers in Two-Hour Tests

Hairdryer	Condition	Rate, m³/min	Analysis*	Time, Sum of 6 at 1500X	Fiber Bundles Introduced into Environment			Mass** Introduced into Environment, ng		
					1 min	15 min	2 hrs	1 min	15 min	2 hrs
Sears 1000	New***	0.6	A	3	87	1,301	10,410	45	677	5,413
			B	2	58	870	6,940	30	450	3,608
Penney's 1400	New***	0.9	A	2	30	434	3,470	15	226	1,804
			B	3	87	1,301	10,410	45	677	5,413
Dandy Mini	New***	0.1	A	1	30	434	3,470	15	226	1,804
			B	1	30	434	3,470	15	226	1,804
Norelco 1000	Used	0.75	A	30	868	13,010	104,100	450	6,776	54,132
			B	25	720	10,798	86,403	374	5,624	44,930
Penney's 1000	Used	0.26	A	9	270	8,650	68,400	285	4,275	37,500
			B	26	770	11,284	90,220	390	5,876	46,904
Sears 1000	Used	0.6	A	2	58	870	6,940	30	450	3,608
			B	2	58	870	6,940	30	450	3,608

*Separate analyses (A & B) of different portions of filter.

**Mass derived by assuming a 2 x 2 x 30 micron average-sized fiber bundle. Each bundle was calculated to have a mass of 0.52 ng.

***The new dryer models tested were chosen because of their similarity to the old models tested.

C 00215

While the data base is limited, it is clear from Table 1 that both old and new dryers release asbestos into the air. In addition, the amount of asbestos emitted per unit time increases, apparently in a non-linear manner, with age.

C.1 The Use of an Asbestos Insulated Hair Dryer May Pose a Significant Health Hazard to the User

While the exact level of asbestos inhaled by a user of an asbestos-containing dryer cannot be assessed solely on the data compiled to date, several parameters approximating the rate and extent of exposure can be determined. These indicate that use of an asbestos-insulated hairdryer may pose a substantial health hazard.

One such parameter is the mass of asbestos released by a dryer per unit of air -- the rate of asbestos release. This is calculated by dividing the mass of asbestos released during any given time period by the volume of air blown out by the dryer during that period of time.

Table 2 lists the approximate rates of asbestos release measured in ng per cubic meter of air for the six dryers tested. The rates of release vary from dryer to dryer. In three cases, the rate of release equals or exceeds 150 ng/m^3. In two cases, the rates of emission exceed 500 ng/m^3. All these values must be considered highly significant in terms of the potential risk posed to public health.

It is important to note that although in general the release of asbestos appears highest from older dryers compared to new ones, one new model released asbestos at a rate (150ng/m^3) far in excess of the other new dryers. This is indicative of the variability likely to be found in new and used dryers due to ways in which the dryers

TABLE 2

Rates of Asbestos Release From Tested Hair Dryers

Hairdryer*	Condition	Rate of Flow of Air m³/min	Mass Introduced Into the Environment in 1 minute** ng	Rate of Asbestos Release ng/m³
Sears 1000	New***	0.6	38	63
Penneys 1400	New***	0.9	30	33
Dandy Mini	New	0.1	15	150
Noreico 1000	Used	0.75	412	550
Penneys 1000	Used	0.6	343	570
Sears 1000	Used	0.6	30	50

*Taken from Table 1

**The values used here are the average value determined from test A, B reported in Table 1.

***The new dryer models tested were chosen because of their similarity to the old models tested.

G 00217

are used, the quality of the paper employed, and other factors. It demonstrates the clear need not to arbitrarily limit concern about this problem to used dryers alone and supports the premise that no liners containing asbestos can be considered safe and without potential risk.

Because all the asbestos emitted by a dryer is not initially of respirable size and the air released from the dryer mixes with room air, the calculations in Table 2 provide an upper bound on the level of freshly emitted asbestos available for inhalation. Some asbestos bundles released from the dryers tested are initially clearly above the respirable size range and therefore are unlikely to enter the lungs. Others, however, (between 1-4 u in diameter and 15-50 u in length) are respirable and could enter and be embedded in the lung tissues. In this regard, it is crucial to emphasize that the methodology used by EMV Associates did not measure asbestos fibers below one micron in diamter. Significant quantities of these size fibers all of which would be respirable -- may be emitted by dryers. In addition, the fiber bundles measured by EMV, most of which had splayed ends and in many cases were loosely aggregated, can be expected to readily disaggregate and breakdown once released into the environment. Therefore, a portion of the asbestos initially released from the dryer which is above the respirable range can be expected to break down to respirable size once released and repeatedly resuspended. 38/

Once released into the air, asbestos fibers for the most part are not transferred outdoors. 39/ A portion of these old fibers as they are resuspended in the air by normal activity are

also available for inhalation.[40] Upon resuspension, asbestos fibers remain airborne for long periods of time.[41]

Dr. Paul Kotin, the Senior Vice President for Health, Safety and Environment of Johns-Manville Corporation, the principal producer of asbestos, has argued: "[O]nce asbestos gets into the home ... it is there virtually permanently."[42] Normal cleaning practices are relatively ineffective in removing asbestos. Moreover, attempts to vacuum up asbestos are likely to make the situation worse. The physical action of vacuuming will disaggregate larger bundles and resuspend asbestos fibers. Vacuum cleaners are unable to efficiently collect asbestos fibers because many of the fibers press through the vacuum cleaner and re-enter the environment.

Given the available data, it is possible to estimate the amount of asbestos that will build up in a room during normal use of a dryer. The first step is to calculate the amount of asbestos released by a dryer over any given period of time. Knowing the volume of air into which the asbestos is released allows one to estimate the concentration of asbestos present.

For example, the used Norelco 1000 dryer tested releases asbestos at a rate of approximately 410 ng per minute. (See Table 2.) Assuming a typical bathroom size of 6 feet by 9 feet by 8 feet, the total volume of air in the room would be approximately 18 cubic meters. Table 3 lists the concentrations of asbestos that would be found in that bathroom after one week, for a number of different use patterns. The calculations in Table 3 assume that the emitted asbestos is evenly distributed throughout the room and that none of the asbestos has left the room. These values are shockingly high.

TABLE 3

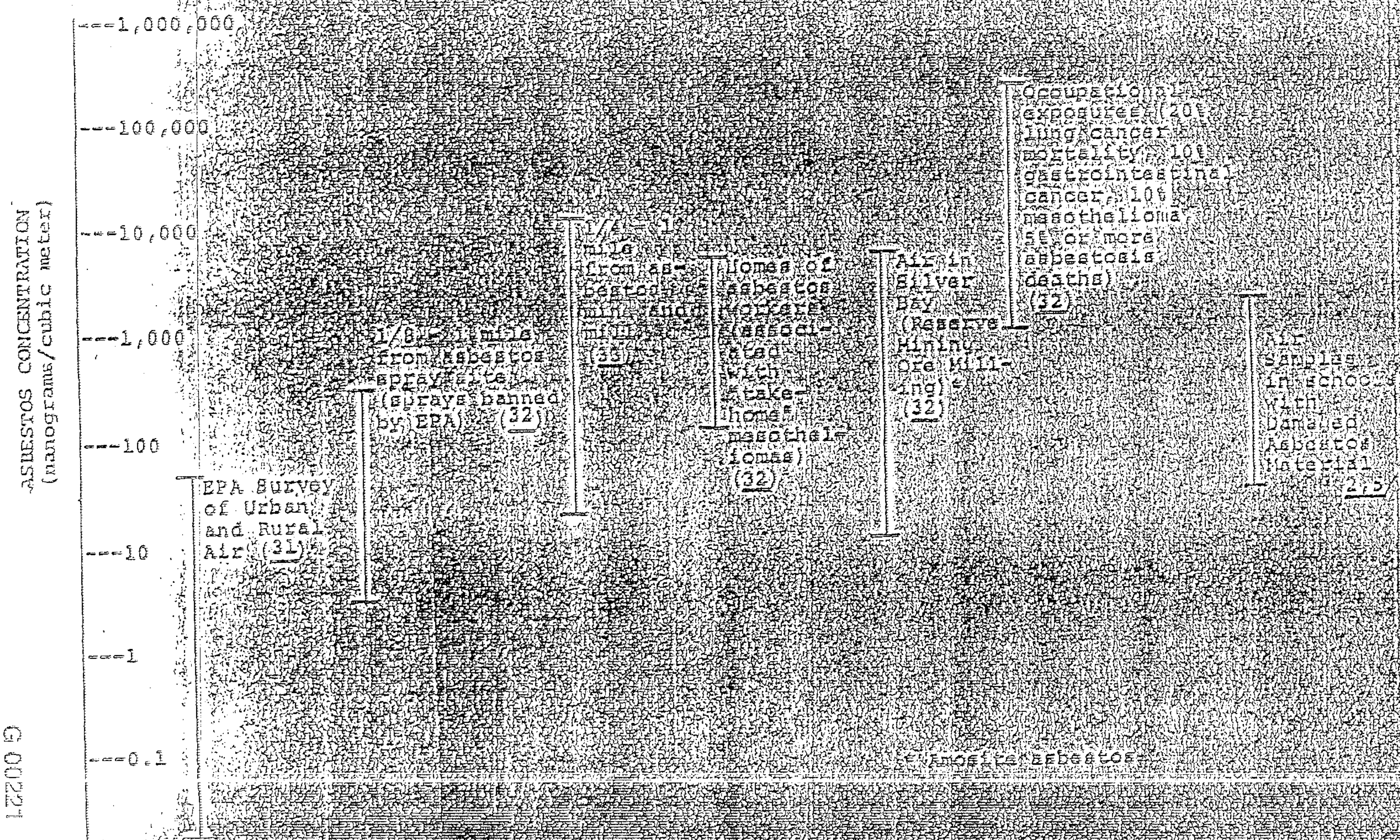
Room Concentrations of Asbestos as a Function of Dryer Use

Minutes Used Daily	Asbestos Released per Minute	Minutes Used per Week	Mass of Asbestos Emitted in ng	Concentration of Asbestos in ng/m^3
10	412	70	28,700	1,600
15	412	105	43,050	2,400
30	412	210	86,100	4,800

Under actual conditions, one would expect, in a room, an asbestos concentration gradient increasing from ceiling to floor, rather than an even fiber distribution. The actual concentration would also depend in large part on how many of the emitted fibers are resuspended. The amount of new asbestos in the bathroom available for inhalation is likely to be less than the amount indicated in Table 3 because not all asbestos fibers released from a dryer are initially of respirable size, although they may become so with time. On the other hand, the Table 3 figures represent the amount of asbestos in a room after only one week of use. It is likely that, because of the amount of asbestos in the insulating liner, a dryer will continue releasing asbestos throughout its operating life. Although the weight of the asbestos insulating liners used in hand-held hairdryers is variable, the average liner weight is approximately 2.5 grams of which up to 90 percent is asbestos.[13] For a dryer such as the Norelco 1000, the rate of asbestos emission is roughly 412 ng/per minute. If such a dryer

TABLE 4

Comparison of Asbestos Levels Found in Various Environments
(chrysotile asbestos unless otherwise noted)



G 00221

were used 150 hours a year and spewed out asbestos at the same hourly rate, in one year it would release over 3.6 million nanograms or 3.6 milligrams of asbestos into the home environment. But a typical liner (2.5 grams in weight, 75% asbestos) contains close to 1900 milligrams of asbestos. Consequently such a dryer contains enough asbestos to remain a serious hazard far in excess of its normal lifetime.)

It is also instructive, using the data presented in Table 3, to compare the calculated concentrations of asbestos with other situations in which asbestos hazards have been identified. The maximum predicted concentration after one week, based on 30 minutes of use per day of the tested Norelco 1000 dryer, is 4800 ng/m^3. In Table 4, data is presented on the range of asbestos concentrations noted in a variety of situations -- from the concentrations of asbestos found in urban and rural air to those levels measured under occupational conditions. Clearly, a level of 4800 ng/m^3 exceeds even the highest level found in ambient air by 50 times and falls within the range of environmental and occupational exposures previously associated with disease.

D. The Use of Asbestos Insulated Hair Dryers May Pose a Significant Health Hazard Even to Those Who Do Not Themselves Use Such Products

Within many homes where an asbestos insulated hair dryer is used, there are family members who themselves never use such dryers. Nonetheless, they may be at risk from the asbestos released by these hazardous consumer products. Adults or children may share the same bathroom or powder room facilities where a dryer is normally used, and thus be exposed to expelled asbestos fibers. Asbestos

may be tracked away from these areas and spread throughout the rest of the house.[44] The entire family may thus bear a risk from one member's use of a hazardous hair dryer.

While exposure to asbestos poses a serious health hazard for adults, the risk faced by children is even greater. Children are more likely than adults to survive sufficiently long for the carcinogenic effects of asbestos to be manifested. The lag time associated with the induction of mesothelioma, for example, is typically between 35 and 50 years. Induced neoplasms in children exposed to asbestos released from hairdryers can be expected to manifest themslves, therefore, when these individuals reach middle age.

In addition, because of physiological characteristics and activity levels, children are at higher risk than adults to the hazards of airborne carcinogens such as asbestos. Children have a higher rate of air exchange and metabolism than adults and consequently exchange a relatively greater volume of air. Thus, per unit body weight, children breathe more air than adults. Under comparable conditions, children have been reported to inhale two to three times as much of a pollutant as older people.[45]

Added to this normal difference in air exchange rates is the fact that children are more active than adults. As the level of activity rises, so does the rate of air exchange in the lungs roughly in an exponential manner. Therefore, children in homes where asbestos contamination has occurred are likely to inhale significant levels of contaminated air while playing. Moreover, such physical activity in children is often associated with mouth breathing and consequently with a loss of the body's normal nasal

filtering capacity. Further, because children are shorter than adults, they are more likely to come in contact with the asbestos dust that gets stirred up from the floor. Studies on various pollutants indicate a distribution in pollutant concentration as a function of distance from the ground. In one study, lead concentrations were found twice as high 1.5 meters from the floor as 20 meters.[46]

For adults or older children who smoke, the hazards caused by asbestos exposure are heightened. As noted earlier, Selikoff and co-workers have reported that workers who smoke and who are occupationally exposed to asbestos have 92 times the risk of dying of lung cancer than do workers who did not smoke and have not been exposed to asbestos. Asbestos workers who smoked had 8 times the lung cancer risk of other smokers. Today, almost 50 million adults and eight million teenagers smoke cigarettes. Many of these people are likely users of hand-held hairdryers. For those using asbestos-lined dryers, their smoking habit exacerbates the problems they face.

While home use of hand-held dryers is the primary focus of concern, it is not the sole focus. In recent years blow-dry hair styles have become increasingly popular among both men and women. Consequently, the use of hand-held dryers in beauty shops and haircutting boutiques has increased dramatically. In shops where asbestos-lined dryers have been or continue to be used, the levels of asbestos released may be very high. The dryers are used very frequently thus creating a potential for the release of large amounts of asbestos. In addition, heavy traffic within such shops

is likely to result in the fragmentation of large fiber bundles, the resuspension of many respirable fiber bundles and individual asbestos fibers. Customers entering such shops, as well as employees, could be exposed to a substantial health hazard.

E. The Scope of the Problem

The popularity of hand-held hairdryers in American households is staggering. According to Merchandising Magazine,47/ as of 1978, an estimated 27.8 million homes or 35.8% of all households contained at least one hand-held dryer. Sales in 1978 alone totalled 7.7 million pistol and 4.7 million styling dryers and exceeded 228 million dollars.48/ While the exact number of hand-held dryers currently in use is not known, a reasonable estimate can be made. Table 5 below lists the estimated sales figures for styling and pistol dryers for the years 1974-1978.49/

TABLE 5

Number of dryers sold (in millions of units)

Type of Model	Year				
	1974	1975	1976	1977	1978
Styling	5.153	4.922	6.0	4.7	
Pistol	5.4	4.681	5.80	6.05	

Adding these figures together indicates that over 55 million hand-held dryers were sold during this five-year period. Since the average life expectancy of a dryer is 5 years, it is reasonable to assume that most if not all these dryers remain in service. While this number may seem overwhelming, it is corroborated by the latest

figures from Underwriters Laboratories. They now estimate that between 50 and 60 million hand-held dryers are in use in this country.[50]

Unfortunately, it is exceedingly difficult to estimate the total number of dryers currently in use that contain asbestos liners. Data identifying models containing asbestos liners are available for only a portion of the total dryer market. In addition, EDF has been unable to obtain figures on whether, for those models found to contain asbestos liners, all or just a portion of the units sold contain asbestos liners. Finally, there are no figures available on the yearly sales of individual dryer models. Therefore, any estimate must be a crude one. (Nearly all manufacturers EDF contacted consider model sales information confidential. Only J.C. Penney released useful data. Penney headquarters indicated that it sold about 200,000 pistol-type hair dryers in 1978. Sales of the Pro-1400 model, which was found by EMV to contain asbestos, constituted the majority of the 200,000 units. Penney's sold 350,000 styling dryers in 1978. Sales of the Rotary Styler/Dryer 1000, also shown by EMV to contain an asbestos liner, constituted a "fair share" of that figure.[51] Despite these statistical problems, the following figures suggest the magnitude of the problem.

Underwriter Laboratories estimates that between 9 and 15 million hand-held hair dryers currently in use contain asbestos liners.[52] The results of a recent market survey are in good agreement with these figures. Used hairdryers in operating condition were purchased from local Washington, D.C. area Goodwill Industry stores. A visual inspection was conducted to determine whether a liner was present in the barrel of the gun. Where a liner was found that appeared to be composed of a fibrous material of grayish-white

TABLE 6

Survey of Used Dryers

Models Inspected Containing Asbestos Liners	Models Inspected Where No Asbestos Liner Was Found
Davar	Conair Model 061
Hamilton Beach Groomer II	Conair Model 065
Norelco 1000-watt Model 1700	Conair Pro Style 1200
Penney's Professional	Conair Vagabond
Type 1000	Conair The Wiz
Sears Men's 1000	Continental
Vornado	G E W
	Gillette Max
	Gillette Max HD 7-9
	Gillette Supermax
	Gillette Supermax II
	Grants 750
	Hamilton Beach Styler 57
	Handy Hannah
	Koryette Pro 1000
	Morphy Richards
	Norelco Gotcha Gun
	Pacesetter Professional 050
	President
	Pro Dri 1200
	Professional 1000
	Remington HW-2A
	Remington Fluff N' Dry
	Schick Styling Dryer 130
	Sears Tri-Power Styling Dryer
	Style Master Turbo Comb
	Sunbeam Power Plus
	Sunbeam Jet Mist

color, it was taken for asbestos analysis by EMV Associates. The results of this survey are shown in Table 6. Of 34 different models inspected, 6 (or 18 percent) were found to contain asbestos liners.

A similar survey and inspection of new dryers currently on sale was also conducted, but in this case selected new dryers were purchased from local retail stores. The results of this survey are reported in Table 7. Of 77 models inspected, 19 (or 25%) were found to contain asbestos liners.

Applying the 25% of new dryers found to contain asbestos liners to the estimated 12.4 million dryers sold in 1978 reveals that approximately 3.1 million dryers sold in 1978 contained asbestos.

TABLE 7

Survey of New Dryers Currently Available for Sale

Models Inspected Containing Asbestos Liners	Models Inspected Where No Asbestos Liner Was Found
Conair Pro Style 1200	American Electric American 1350
Dandy	American Electrid Fantastik 1200
GE Power Turbo 1200	Braun Travelaire 1200
GE Super Pro 1400	Clairol Dry Gun 1000
GE Super Turbo 1400	Clairol Hot Stuff 1000
Hamilton Beach Pro Gun 1200	Clairol One for the Road 1250
J.C. Penney Blow Dryer 1200	Clairol Pretty Power
J.C. Penney Pro 1400	Clairol Son of a Gun
J.C. Penney Rotary Styler/Dryer 1000	Conair Pistol Power
Sanyei Might 1000	Conair Pro 1000
Sears Men's 1000 Blow Dryer	Conair Pro Baby 1200
Sears Women's 1000 Blow Dryer	Conair-The Wiz 1000
Sears Women's 1000 Styler Dryer	GE Compact 1200 Go Dryer
Sunbeam Professionaire 1000	GE Power Pro
Wards 1050 Pro Gun	GE Zoom 1000
Wards 1250 Pro Gun	Gillette Max 1000
Wards Variable Power 1400 Compact Gun	Gillette Max for Men
	Gillette Pro Max Compact 1000
	Gillette Pro Max Compact 1200
	Gillette Supermax 650
	Gillette Supermax II 800
	Gillette Supermax II Adjustable 200-900
	Gillette Supermax Swivel
	Supermax Curly Top 1200
	Hartman Pro 1500
	Hartman Style Setter 1000
	Norelco Gotcha Gun 1200
	Northern Pocket Pistol 1200
	Northern Fan Jet 1200
	Remington Fluff & Dry 1000
	Sears Men's
	Compact Blow Dryer 1200
	Compact Styler Dryer 1200
	Fold N' Go
	Super Combo
	Variable 1200
	Variable Styler Dryer 1200
	800 Styler Dryer
	1100 Styler Drier
	Sears Women's
	Compact Styler Dryer 1200
	Fold N' Go 1200
	Super Combo
	Super Combo II
	Super Combo III 1200
	Variable 1200
	Variable Styler Dryer w/ constant temp 1200

TABLE 7 (continued)

Models Inspected Containing Asbestos Liners	Models Inspected Where No Asbestos Liner Was Found
	Shetland Pony Pro 1200
	Schick APS 1000
	Schick Drying Stick 1200
	Schick Projet 1200
	Schick Styling Stick 900
	Lady Schick 1000
	Lady Schick Styling Stick 1200
	Lady Schick Speed Stick
	Sunbeam Odyssey 1200
	Sunbeam Swing Air 1000
	Wards Compact Gun 1250
	Wards Ultrabrush II 1100 Styling Brush
	Wards Variable 1000 Styling Brush

The validity of such a calculation is clearly dependent on how representative the market survey conducted was. Since this information is unavailable, the estimate of 3.1 million dryers must be viewed with caution.

Similarly, applying the 18 percent figure (the percentage of used hair dryers containing asbestos liners) to the nearly 8 million dryers sold between 1974 and 1977, reveals that about 1.8 million of these dryers contain asbestos. Adding the 1.3 million dryers sold in 1978 to the 1.8 million dryers previously sold and believed to be in use indicates that about 3.1 million dryers currently in use contain asbestos.

While the data base for which to judge the true magnitude of this problem is limited, there can be no doubt that millions of American homes contain hazardous asbestos-lined hairdryers. As

G 00229

noted earlier, not only are users at risk from this product, but so too are millions of family members who live in those homes.

Unfortunately, the sale of asbestos-lined hairdryers will continue for months -- if not years -- unless immediate regulatory action is forthcoming. Existing warehoused inventories of dryers may number in the millions.[53] Many of these may contain asbestos. In addition, asbestos-containing dryers will continue to be manufactured. Underwriters Laboratories, which sets standards governing the use of insulating materials in dryers,[54] still includes asbestos among their approved materials.

F. Alternative Dryers Which Do Not Use Asbestos Liners are Available at Comparable Cost

Hand-held dryers can be made without asbestos liners. Alternative lining materials such as mica and metal are available. In many cases, dryers, if designed appropriately, need no liners at all.

The use of alternative designs or lining materials does not result in an increased cost to consumers. Therefore, the use of asbestos liners is unacceptable in light of the health hazards posed.

The price borne by consumers is determined more by the style of dryer and the store it is purchased in than by whether or not it contains a liner and, if so, what type. In a survey of local Washington, D.C. stores, the price of several 1000-1200-watt hair dryers was determined. These were compared to each other and to the price charged for comparable wattage Sears and Penney's dryers which were found to contain asbestos liners.

The price for any brand model dryer varied considerably
depending on the store. The greatest difference was found for th
cost of the Gillette Pro Max Compact 1000, which sold for anywher
from $15.87 to $19.99. The lowest price found for a 1000-watt
dryer was $10.99 for the Norelco 1000. The highest was $21.95 fo
the Supermax II. The Sears Mens' 1000 and the Penney's 1400, bot
which contain asbestos liners, sell for $13.99 and $15.99
respectively. The price of these units falls within the range
charged for comparable units and is not significantly different
than models that do not contain asbestos liners. The discontinu
of dryers with asbestos liners should not, therefore, involve any
economic hardship for consumers.

V. Legal Analysis

A. Regulation of Hair Dryers Containing Asbestos Under the Consumer Product Safety Act Rather than Under the Federal Hazardous Substances Act Is in the Public Interest

Section 30(d) of the Consumer Product Safety Act, 15 U.S.C. §2079(d), provides that "a risk of injury which is associated with a consumer product and which could be eliminated or reduced to a sufficient extent under the Federal Hazardous Substances Act, the Poison Prevention and Packaging Act of 1977, or the Flammable Fabrics Act may be regulated under this chapter only if the Commission by rule finds that it is in the public interest to regulate such risk of injury under this chapter." Petitioner submits that, although hair dryers containing asbestos could conceivably be regulated under §2 of the Federal Hazardous Substances Act, that it is in the public interest to regulate such products under §15 of the Consumer Product Safety Act.

Under the Federal Hazardous Substances Act, the Commission would first have to determine that labeling was not adequate to protect the public from the hazards presented by these products. Next, a determination by the Commission that such products should be banned could be immediately set aside by the filing of objections by the manufacturers or distributors of such products. Under the Federal Hazardous Substances Act the mere filing of such objections, as long as they present reasonable arguments, is sufficient to stay the effect of any rule. Furthermore, the Commission is required to hold an adjudicatory hearing on such objections before making a final decision.

See Pactra Industries v. CPSC, 555 F.2d 677 (9th Cir. 1977).

If past experience with these procedural requirements is any guide, such an adjudicatory hearing could require two to three years to complete. By that time the remaining inventory of hair dryers containing asbestos would have been sold. Furthermore, consumers who are already using such products would have been exposed to substantial additional amounts of asbestos, concentrations which could produce mesothelioma or lung cancer. In short, action under the Federal Hazardous Substances Act could be delayed for months or even years and therefore petitioners feel it is in the public interest to utilize the much less time-consuming procedures contained in §15 of the Consumer Product Safety Act.

Both judicial and administrative precedents exist for such a finding. In Forester v. CPSC, 559 F.2d 774 (D.C. Cir. 1977), the court found that despite the negative language contained in §30(d), the Commission has broad discretion to regulate products under the Consumer Product Safety Act which normally would have been subject to regulation exclusively under the Federal Hazardous Substances Act. In addition, the Commission has proposed such a determination in similar circumstances for in the proposed benzene regulations, the Commission has stated:

> The Commission proposes to regulate consumer products, except gasoline and solvents or reagents for laboratory use, containing benzene as an intentional ingredient or as a contaminant, under the Consumer Product Safety Act (CPSA) instead of under the Federal Hazardous Substances Act (FHSA), to address the risks of blood disorders, chromosomal abnormalities, and leukemia associated with benzene inhalation. According to the CPSA, the Commission may not regulate under the CPSA a risk of injury that could be eliminated

or reduced to a sufficient extent under the FHSA unless the Commission finds by rule that it is in the public interest to do so. The Commission has preliminarily found that it is in the public interest to regulate these products under the CPSA. [43 Fed. Reg. 21838 (May 19, 1978).]

In short, there is ample justification for using the Consumer Product Safety Act in place of the Federal Hazardous Substances Act.

B. Hair Dryers Which Contain Asbestos Materials Are Defective Within the Meaning of §15(a)(2)

Section 15(a)(2) defines "substantial" product hazard as "a product defect which (because of the pattern of defects, the number of defective products distributed in commerce, the severity of the risk, or otherwise) creates a substantial risk of injury to the public." 55/ The term "product defect" has been further defined by the Commission in an interpretive ruling issued on August 7, 1978. 56/ According to those regulations, the term "product defect" is not limited to a fault or flaw in the production or design of the product. According to the rule,

> In addition, the design of and materials used in a consumer product may also result in a defect. Thus, a product may contain a defect even if the product is manufactured exactly in accordance with its design and specifications, if the design presents a risk of injury to the public. A defect can also occur in a product's content, construction, finish, packaging, warnings and/or instructions. 57/

This language is further explained in the preamble to the interpretive ruling.

G 00234

The Commission has considered this and several other definitions of defect in developing this interpretive rule. What it wishes to do is put members of the public, especially subject firms, fairly on notice that a product may contain a defect even if it is designed, manufactured, and marketed exactly as intended." 58/

The Commission went on to provide a specific illustration of a product which might contain such a defect:

"Thus, as set forth in section 1115.4, if a metallized kite is capable of conducting electricity from air to ground and can come within reach of the ground when entangled in power lines, it is defective even if it is made more beautiful because of the thin coating of metal and even if it handles better in the air because of the slight added weight of the metal. The kite is designed, manufactured, and marketed exactly as intended, it presents an unjustified risk of injury, and it contains a defect within the meaning of section 15(a)." 59/

Petitioners suggest that hair dryers containing asbestos insulation materials present a comparable situation. Like the metallized kite cited by the Commission, hair dryers containing asbestos insulation materials are designed, manufactured, and marketed exactly as intended. Nevertheless, the fact that asbestos in these products creates a substantial product hazard because significant quantities of the material can become airborne during normal operation. As was shown in the preceding section, the levels of asbestos generated can approach those measured in occupational exposure settings. These levels have been linked to an increased incidence of mesothelioma and lung cancer. Moreover, the use of such hair dryers presents a hazard not only to the user, but to other occupants of the home. Asbestos can be constantly resuspended in the air as a result of normal household activity, including continued use of the dryer.

G 00235

In short, hair dryers containing asbestos insulation materials contain a "defect" within the meaning of both §15(a)(2) as well as the Commission's regulations to interpret this section.

C. The Use of Asbestos in Hair Dryers Constitutes a Product Defect Which Creates a Substantial Risk of Injury to the Public.

Section 15(a)(2) of the Consumer Product Safety Act provides three criteria for determining whether a product defect creates "a substantial risk of injury to the public," and therefore is subject to Commission action under §§15(c) and (d). These are: (1) the pattern of the defect; (2) the number of defective products distributed in commerce; and (3) the severity of the risk. Hair dryers containing insulation materials impregnated with asbestos satisfy all three of these criteria.[60]

First, the defect occurs in all hair dryers containing asbestos materials because the use of asbestos is inherent in the design of the product. Petitioner is aware of no hair dryers containing asbestos materials which do not also emit asbestos during normal operation. This is due to the fact that the asbestos is not permanently bonded or encapsulated in the liner material. Over time air pressure created by the dryer dislodges asbestos particles and forces them into the home environment. Thus, the pattern of the defect appears to be universal.

The second criterion is the number of defective products distributed in commerce. According to EDF's information, between

[60] 50 to 60 million hand-held hair dryers are currently being used.

Of this total more than 10 million are suspected of containing asbestos. In addition, the industry expects to sell an additional 11 to 12 million hand-held hair dryers in this year alone. Approximately 25 percent of these are expected to contain asbestos. In short, the use of asbestos in hair dryers appears to be widespread.

The third criterion for determining whether the defect creates a substantial risk of injury is the severity of the risk presented by the defect. The cancer risk presented by hair dryers containing asbestos material has already been documented extensively in the preceding section. As indicated there, the amount of asbestos emitted can approach or exceed those levels measured in occupational exposure environments. Moreover, the degree of risk increases with continued use of the product. Older, but still serviceable hair dryers present the greatest hazard. Finally, the risk is not limited to those who actually use the product. Asbestos released into the home environment is virtually impossible to remove and constitutes a threat to children and other members of the household who may not use the product themselves.

In the preamble to the Commission's implementing regulations, the Commission states that most defects could present a substantial product hazard if the public is exposed to significant numbers of defective products or if the possible injury is serious or is likely to occur. 61/ Petitioners suggest that hair dryers containing asbestos materials satisfy both of these criteria as well as the statutory criteria cited above.

Moreover, the risk presented by these hair dryers is total unnecessary since acceptable substitutes exist. The benefits obtained from the use of electric hair dryers can be fully protected simply by requiring the use of alternative insulation materials or the use of heat resistant plastic which requires no special insulation liners. In this sense, the Commission is not even required to make a benefit/risk tradeoff, as is suggested in the preamble to the final regulations. 62/

Moreover, the risk can be eliminated in new dryers, at virtually no additional cost. According to figures obtained by EDF, hair dryers equipped with alternative insulation materials or produced from heat resistant plastic cost no more, for comparable wattage, than dryers equipped with asbestos impregnated insulation material. 63/

For all of the foregoing reasons, petitioners suggest that hair dryers containing asbestos insulation materials do present a substantial product hazard and thus are subject to Commission action under §15(c) and §15(d) of the Consumer Product Safety Act.

D. Section 15(c) Gives the Commission Authority To Require Public Notification of the Hazard Presented by Such Products

Once the Commission has determined that a defect presents a substantial product hazard, it has the authority under §15(c) of the Consumer Product Safety Act to order the manufacturer or any distributor or retailer of the product to take any one or more of the following actions:

(1) To give public notice of the defect or failure to comply.

(2) To mail notice to each person who is a manufacturer, distributor, or retailer of such product.

(3) To mail notice to every person to whom the person required to give notice knows such product was delivered or sold.

Furthermore, the Commission has the authority to specify the form and content of any such notice.[64/]

EDF requests the Commission to use its full authority under §15(c) to require both general public notice through press releases and other means designed to ensure widespread public knowledge of the problem as well as through individual letters to consumers who are known to have purchased such hair dryers. The first step in achieving this objective is to obtain the necessary product information from dryer manufacturers and distributors to identify those hair dryers which contain asbestos impregnated insulation materials. Under §1115.13 of its interpretive rule, the Commission has the authority to require a full report from manufacturers and distributors of products presenting a substantial product hazard. For example, under §1115.13(d)(3) the Commission has the authority to require an identification and description of the products.

> Give retail prices, model numbers, serial numbers, and date codes. Describe any identifying marks and their location on the product. Provide a picture or sample of the product.

In addition, the Commission has the authority to require information on the number of products and units held by manufacturers, distributors and retailers, as well as the

number of products in the possession of consumers. Indeed, the regulations specifically authorize the Commission to require a list of the names of ultimate consumers, whenever known. Much of this information can be obtained from warranty records maintained by manufacturers, distributors or retailers. Petitioners request that the Commission obtain such information as soon as possible in order to facilitate the preparation of notices to individual consumers. Moreover, the Commission should obtain information on the specific model or hair dryers which contain asbestos as soon as possible. Such information should be provided to the public in order that the hazard can be reduced pending further action.

(2) The Commission Has the Authority Under §15(d) To Prohibit the Further Sale or Manufacture of Such Dryers as well as To Require Manufacturers, Distributors or Retailers To Either Repair, Replace or Refund the Purchase Price of Such Products.

Under §15(d), the Commission has broad authority to require both new hair dryers containing asbestos, as well as hair dryers already in the possession of consumers. First, the Commission may issue an order which prohibits the person to whom it applies from manufacturing for sale, offering for sale, distributing in commerce, or importing into the customs territory of the United States (as defined in General Headnote 2 to the tariff schedules of the United States), or from doing any combination of such actions, the product with respect to which the order was issued.[65]

In addition, the Commission may order the manufacturer or any distributor or retailer of such product to take any one of the following actions, at the election of the person to whom the order is directed: (1) to bring such product into conformity with the requirements of the applicable consumer product safety rule or to repair the defect of such product; (2) to replace such product with a like or equivalent product which complies with the applicable consumer product safety rule or which does not contain the defect; (3) to refund the purchase price of such product (less a reasonable allowance for use, if such product has been in the possession of a consumer for one year or more (A) at the time of public notice under subsection (c) of this section or (B) at the time the consumer receives actual notice of the defect or noncompliance, which ever first occurs).

To carry out the order, the Commission is given the authority to require the submission of compliance plans which are intended to spell out in detail the actions which a manufacturer, distributor, or retailer will take to comply with a §15(c) order.

Petitioner would prefer that manufacturers either repair or replace the defective hairdryers. Repair could consist of, or simply replacing the asbestos impregnated liner with a liner containing mica or other non-asbestos material. Petitioner recognizes that the person to whom the requirement is directed has the option of selecting the appropriate response. If such person elects to refund the purchase price of such product and the product is over one year old, petitioner requests that the

G 00241

Commission carefully evaluate the appropriate reasonable allowance for use. If this allowance is set too high, consumers in possession of older hair dryers may be discouraged from seeking refunds, and may continue to use the defective products. As a general guide, petitioners suggest that such allowance should not exceed 30 percent of the original purchase price.

Although the use of voluntary compliance plans pursuant to §1115.20 of the regulations is acceptable to petitioners, EDF believes that the Commission should closely monitor compliance with such plans and should be prepared to issue either consent order agreements or an adjudicative Commission order if the Commission receives any evidence that manufacturers, distributors, or retailers are not strictly complying with the terms of the voluntary plan. Furthermore, the plan should contain a specific set of interim deadlines or milestone for notice and other remedial actions.

Finally, EDF urges the Commission to consider use of §15(g) if it determines that the proceeding for issuance of an order under §15(d) will be protracted, or if it has evidence that retailers or manufacturers are attempting to unload large quantities of such hair dryers prior to the effective date of any such order. Section 15(g)(1) provides:

If the Commission has initiated a proceeding under this section for the issuance of an order under subsection (d) of this section with respect to a product which the Commission has reason to believe presents a substantial product hazard, the Commission (without regard to section 2076(b)(7) of this title)

G 00242

or the Attorney General may, in accordance with section 2761(e)(1) of this title, apply to a district court of the United States for the issuance of a preliminary injunction to restrain the distribution in commerce of such product pending the completion of such proceeding. 66/

Such an injunction cannot be issued for more than 30 days, but could prevent the "dumping" of hair dryers containing asbestos at discount prices pending the completion of Commission action. In the absence of such an action, the Commission should, at a minimum, seek pledges from the major holders of such products that they will not attempt to unload the products prior to Commission action.

The Commission Has and Should Use Its Authority Under §15(f) To Designate a Single Representative To Represent Parties with a Common Interest In Such a Hearing In Order To Expedite the Proceedings

Section 15(f) provides that "an order under subsection (c) or (d) of this section may be issued only after an opportunity for a hearing in accordance with §554 of title 5, except that, if the Commission determines that any person who wishes to participate in such hearing is a part of a class of participant who share an identity of interests, the Commission may limit such persons' participation in such hearing to participation through a single representative designated by such class (or by the Commission if such class fails to designate such a representative)." 15 U.S.C. §2064(f).

Since §554 of title 5 provides for an adjudicatory hearing it is essential that the Commission place limitations on the ability of manufacturers, distributors or retailers to prolong such a proceeding to the point where effective regulation

of hair dryers containing asbestos is precluded. One approach which the Commission is authorized to use is a limitation on the number of participants who have the right to cross-examine during the hearing. Section 15(g) allows the Commission to require those parties which have a similar interest to designate one party to represent them in such cross-examination. If a number of parties with a similar interest do request a hearing, we strongly urge the Commission to consider using this provision in order to cut down on the length of time required to conduct the §554 hearing.

VIII. Conclusion

In conclusion, petitioners have presented a significant body of evidence which shows that hand-held hair dryers containing asbestos impregnated insulation materials constitute a substantial product hazard. On the basis of this evidence, petitioners have requested the Commission to (1) require manufacturers, distributors and retailers to provide notice of such hazards to all affected consumers; (2) prohibit the further manufacture and sale of such products; and (3) issue an order requiring manufacturers, distributors or retailers to either replace, repair or repurchase such products. In addition, petitioners have requested the Commission to consider seeking a preliminary injunction under §15(g) if it appears that the adjudicatory hearing provided for in §15(f) will be protracted.

G 00244

Because of the substantial hazard presented by these products, petitioners request that action be taken on this petition by no later than May 1, 1979.

Respectfully submitted,

Joseph H. Highland, Ph.D.
Chairman
Toxic Chemicals Program

Leslie Dach
Science Associate

Robert J. Rabe
Staff Attorney

March 2nd, 1979

FOOTNOTES

1. Wagner, J.D., Berry, G., Skidmore, J.W. and Timbrell, V. (1974) The effects of the inhalation of asbestos in rats. Brit. J. Cancer, 29:252-269.

2. IARC Monographs on the Evaluation of the Carcinogenic Risk o Chemicals to Man: Asbestos, Vol. 14 (1977).

3. Lynch, K.M. and W.A. Smith (1935). Pulmonary asbestosis III carcinoma of the lung in asbestos-silicosis. Am. J. Cancer 24:56.

4. Selikoff, I.J. (1976) Asbestos disease in the United States. Rev. fr. Mal. Resp. 4:7-24.

5. McDonald, A.D., Magner, D. and Eyssen, G. (1973). Primary malignant mesothelial tumors in Canad, 1960-1968. A patholo ic review by the mesothelioma panel of the Canadian Tumor Refer nce Centre. Cancer, 31:869-876.

McDonald, J.C., Becklake, M.R., Gibbs, G.W., McDonald, A.D. and Rossiter, C.E. (1974). The health of chrysotile asbestos mi e and mill workers of Quebec. Arch. Environm. Hlth., 28:61-68

6. Kogan, F.M., Guselnikova, N.A. and Gulevskaya, M.R. (1972). The cancer mortality rate among workers of asbestos industry of the Urals. Gig. i Sanit. 37:29-32.

7. Wagoner, J.J., Johnson, W.M. & Lemen, R. (1973). Malignant and Non-malignant Respiratory Disease Mortality Patterns Among Asbestos Production Workers. In: Congressional Record - Senate Proceedings and debates of the 93rd Congress, First Session, 119, part 6, Washington, D.C., U.S. Government Printing Office, S-4660-S-4662.

8. Enterline, P.E. and Henderson, V. (1973). Type of asbestos and respiratory cancer in the asbestos industry. Arch. Environm. Hlth. 27:312-317.

9. Selikoff, I.J., Hammond, E.C. and Seidman, H. (1973). Cancer Risk of Insulation Workers in The United States. In: Bogovski, P., Gilson, J.C., Timbrell, V. and Wagner, J.C. (eds), Biological Effects of Asbestos, Lyon, International Agency for Research on Cancer (IARC Scientific Publications No. 8), pp. 209-216.

10. Newhouse, M.L. and Berry, G. (1976). Predictions of mortality from mesothelial tumors in asbestos factor workers. Brit. J. Industr. Med., 33:147-151.

11. See n. 2.

12. Menck, H.R. and Henderson, B.E. (1976). Occupational differences in rates of lung cancer. J. Occ. Med. 18:797-801.

13. See n. 2.

14. National Cancer Institute, National Institute of Environmental Health Sciences, and National Institute of Occupational Safety and Health. September 15, 1978. Estimates of the fraction of cancer in the United States related to occupational factors.

15. See n. 7.

16. See n. 10.

17. See n. 2.

18. Newhouse, M.L. and Thompson, H. (1965). Mesothelioma of Pleura and Peritoneum Following Exposure to Asbestos in the London Area. Brit. J. Industr. Med. 22:261-69.

19. Seidman, H., Lilis, R. and Selikoff, I.J. Short-term asbestos exposure and delayed cancer risk. Presented at the 3rd Int. Symp. on Det. and Prev. of Cancer, New York, April 26-May 1, 1976.

20. See n. 4.

21. Greenberg, M. and T.A. Lloyd-Davies (1974). Mesothelioma register 1967-68. Brit. J. Ind. Med. 31:91-104.

22. See n. 7.

23. See n. 10.

24. Dreessen, W. and Platava, A.B. (1967). Mesothelioma and asbestos exposure. Arch. Environ. Hlth. 14:659-63.

25. See n. 21.

26. Hartschuh, K.M., Newell, D.J., Barnsley, W.C., Cowan, W.F., Fetherston, F.L., and Oliver, R.E. (1977). Unsuspected exposure to asbestos and bronchogenic carcinoma. Brit. Med. J. 1:746.

27. See n. 20.

28. See n. 2.

29. Lillington, G.A., Dampier, R.W., and Differding, J.R. (1971). Coincidental malignant mesothelioma. New Engl. J. Med. 284:56.

30. Anderson, H.A., Lilis, R., Daum, S.M., Fischbein, A.S., and Selikoff, I.J. (1976). Household-contact asbestos neoplastic risk. Ann. N.Y. Acad. Sci. 271:311.

31. Edge, J.R. and Choudhury, S.L. (1978). Malignant mesothelioma of the pleura in Barrow-in-Furness. Thorax 33:26-30.

32. Vianna, N.J. and Polan, A.K. (1978). Non-occupational exposure to asbestos and malignant mesothelioma in females. Lancet 1:1061-1063.

G 00247

33. 42 Fed. Reg. 54167.

34. National Institute for Occupational Safety and Health (1976) Re-examination and update of information on the health effects of occupational exposure to asbestos.

35. Memorandum to Morton Corn, Assistant Secretary of Labor for OSHA from Director, NIOSH, December 15, 1976.

36. See n. 2.

37. "Asbestos Discharge from Six Hairdryers in a Two-hour Test." EMV Associates, March 19, 1979.

38. Arthur Rohl, Ph.D., Mt. Sinai School of Medicine, personal communication.

39. Id.

40. "Sprayed Asbestos-containing Materials in Buildings: A Guidance Document." U.S. EPA 450/2-78-0145, March, 1978, at I-2-2.

41. Id. at I-2-3.

42. Statement of Dr. Paul Kotin before the OSHA Advisory Committee on Construction Safety and Health, January 22, 1976, at 7 and 8.

43. Personal communications with Dr. John Wehrung, EMV Associates and Nate Hughes, Quinn-T Company.

44. See n. 40 at I-2-5.

45. Kane, D.N. (1976) Bad air for children? Environment 19, 2.

46. Id.

47. Merchandising Magazine, March 1979. Permission for use of statistics given by Ethel Spivak, March 26, 1979.

48. Id.

49. Id.

50. Bob Currie, WRC-TV, personal communication.

51. It cannot be assumed that all Pro-1400 or Rotary Styler/Dryer 1000 models sold in 1978 contained asbestos. In the case of another model sold by a different manufacturer, identical models dryers were found for sale and only one contained an asbestos liner. The other did not.

52. See n. 50.

53. William Hodge, U.S. Department of Commerce, personal communication.

54. Dale Ray, U.S. CPSC, personal communication.

55. 15 U.S.C. §2064(a)(2).

56. See 16 C.F.R. §1151 et seq., 43 Fed. Reg. 34988 (Aug. 7, 1978).

57. 16 C.F.R. §1115.4.

58. 43 Fed. Reg. 34990 (Aug. 7, 1978).

59. Id.

60. It should be emphasized that only one of these criteria must be satisfied to support a finding of substantial hazard. "Therefore, the existence of any one of the factors could create a substantial product hazard." 16 C.F.R. §1115.12(f)(1).

61. 43 Fed. Reg. 35000 (Aug. 7, 1978).

62. 43 Fed. Reg. 34991 (Aug. 7, 1978).

63. See discussion at 30-31, infra.

64. 15 U.S.C. §2064(c).

65. 15 U.S.C. §2064(d).

66. 15 U.S.C. §2064(g)(1).

G 00249