PLAINTIFF'S EXHIBIT

UC-2194

Asbestos Information Association/North America

1660 L Street, N. W.
Washington, D. C. 20036

October 1, 1973

MEMORANDUM TO MEMBERS

SUBJECT: FDA Proposed Rulemaking "Asbestos Particles in Food and Drugs"

Attached is the announcement of the Food and Drug Administration notice of proposed rulemaking on "Asbestos Particles in Food and Drugs as appeared in the Federal Register, Vol. 38, No. 188, Friday, September 28, 1973.

The Association proposes to comment on this matter and encourages comments by individual members as well. Deadline of the FDA for receiving comments is December 27, 1973. It is requested that information to assist in the preparation of the Association response be received by November 5.

R. H. Mereness
Executive Director

Attachment

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Food and Drug Administration

[21 CFR Parts 121, 128, 133]

ASBESTOS PARTICLES IN FOOD AND DRUGS

Notice of Proposed Rulemaking

The Commissioner of Food and Drugs has received a petition from the Center for Science in the Public Interest, 1779 Church Street NW., Washington, D.C. 20036, and the Environmental Defense Fund, 1525 18th Street NW., Washington, D.C. 20036, requesting promulgation of regulations under the Federal Food, Drug, and Cosmetic Act to prohibit the adulteration of food and drugs with asbestos. Petitioners request that the Commissioner publish in the FEDERAL REGISTER "immediately (within 30 days)" the following proposed regulations:

1. Subpart F of Part 121 is amended by adding the following section:

§ 121.... *Filters containing asbestos.*

"Foods that have come into contact with filters made wholly or partially of asbestos may reasonably be expected to become contaminated with asbestos particles which may be injurious to health when ingested. Accordingly, any food or food additive produced, manufactured, processed or prepared using a filter made wholly or partially of asbestos shall be deemed to be adulterated in violation of section 402(a) of the Act.

2. Part 133 is amended by adding the following sections:

§ 133.... *Filters containing asbestos.*

Drugs passed through filters made wholly or partially of asbestos may reasonably be expected to become contaminated with asbestos particles which may be injurious to health when injected or ingested. Accordingly, any drug or drug component produced, manufactured, processed or prepared using a filter made wholly or partially of asbestos shall be deemed to be adulterated in violation of section 501(a) of the Act.

§ 133.... *Talc containing asbestos.*

Talc is a naturally occurring hydrous magnesium silicate which may reasonably be expected to be contaminated with asbestos particles. Asbestos particles may be injurious to health when ingested or injected. Accordingly, it is not considered good manufacturing practice to add talc, directly or indirectly, as a component in the production, manufacture, processing or preparation of any drug, unless the manufacturer or processor of the drug first demonstrates by appropriate tests that the talc so used is free of asbestos particles. Any drug or drug component containing talc which has not been demonstrated to be free of asbestos particles shall be deemed to be adulterated in violation of section 501(a) of the Act.

Petitioners also request that the Commissioner "immediately (within 30 days from the receipt of this petition)" promulgate as a final regulation a zero tolerance for asbestos particles in talc intended for use as a food additive, pursuant to the proposal published in the FEDERAL REGISTER of August 12, 1972 (37 FR 16407), and take whatever other action the Commissioner deems necessary to eliminate contamination of food and drugs with asbestos.

A complete copy of the petition and its attachments may be reviewed at the office of the Hearing Clerk, Food and Drug Administration, Rm. 6-86, 5600 Fishers Lane, Rockville, MD 20852, during working hours, Monday through Friday.

The Commissioner has carefully reviewed the petition, its attachments, and other available information, and has reached the following conclusions. Each conclusion indicates the source reference upon which the conclusion is based and copies of all referenced material are available from the office of the Hearing Clerk.

"Asbestos" is a generic term for a number of hydrated silicates that, when crushed or processed, separate into flexible fibers made up of fibrils. Although there are many asbestos minerals, only six are of commercial importance. Chrysotile, a tubular serpentine mineral, accounts for 95 percent of the world's production. The others, all amphiboles (crystals with 3 groups of metal ions), are amosite, crocidolite, anthophyllite, tremolite and actinolite. These asbestos minerals differ in their metallic elemental content, range of fiber diameters, flexibility, harshness, tensile strength, surface properties, and other attributes that determine their industrial uses and which may affect their respirability, deposition, retention, translocation and biologic reactivity (Ref. 1).

Many products such as cement, flooring, shingles, pipes, filters, textiles, etc., contain asbestos of one kind or another.

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There are great variations among such products with respect to the chances of fiber release during the use of the product. The likelihood of such fiber release depends predominantly on the ease with which the fibers can be dislodged and on the degree to which the use of the product destroys the fibers. Almost all asbestos fiber used in the United States for manufacturing products becomes tightly bound within the products and usually undergoes little actual abrasion or wear before being discarded. Asbestos cement products (accounting for most of the asbestos used in the United States), shingles and floor tiles are in this category. Some asbestos-containing products, such as brake linings, are subjected to great friction; their rate of wear is considerable, and at times they are almost completely worn away. In the case of brake linings, the application of force is so intense and the heat created so great that most chrysotile fibers are destroyed by being converted into another substance which is non-fibrous. Nevertheless, an appreciable percentage (1 to 3 percent) remains as fibrous asbestos, and fiber release from products such as asbestos cloth, paper and sprayed fireproofing materials is a serious source of emission. This usually occurs in densely populated areas. Most of the pipes delivering drinking water are of a mixture of cement and asbestos.

Solid wastes produced during manufacture of asbestos-containing products, use of such products, and demolition can be emission sources. These waste materials are usually disposed of without regard to their potential as emission sources. Alternate methods of disposal often result in commingling of asbestos-containing wastes with municipal wastes in open dumps and thus create a long-term emission source.

Asbestos fibers thus are ubiquitous in air, water and a large percentage of the earth's crust. The amount of this material which additionally is added to the environment and to food and drugs by the use of asbestos filters is not known. Therefore it is obvious that the presence of asbestos in these products is only one small source of exposure.

Asbestos inhalation has been known to be an occupational hazard in workers in asbestos mines. The asbestos is inhaled and lodges in the lungs causing the development of a fibrotic disease known as "asbestosis." Asbestosis, or abestotic pneumonoconiosis, was the first clearly demonstrated adverse effect of asbestos in man. It is characterized by a pattern of roentgenographic changes in the lung consistent with diffuse interstitial fibrosis of variable degree and at times with fibrosis and calcification of the pleura; clinical changes that include fine rales, finger clubbing and shortness of breath, each of which may be absent in an individual case; and physiologic changes consistent with a restrictive lung disorder (Refs. 2 through 8).

In these workers in asbestos mines, malignancies of the lung and of the body lining tissues, namely lung cancer and mesothelioma, occur at rates greater than in persons not so occupationally exposed. There is a 5 to 7 fold increase in lung cancer in asbestos workers which is noted as early as 10 to 14 years after onset of exposure and is significant at 20 years (Refs. 9 through 15). Seven percent of deaths in asbestos workers are caused by pleural and peritoneal mesothelioma (Refs. 16 through 33). This is a marked increase since this tumor is extremely rare in the general population. There is suggestive evidence concerning an increase in the rate of gastrointestinal malignancies in asbestos workers (Ref. 34).

There is considerable evidence that most human lungs harbor thousands or millions of asbestos fibers although most people do not have asbestosis (Refs. 35 through 37). This is due to the ubiquity of the substance. Some of these fibers are chrysotile asbestos, and amphiboles are probably present also. This number of fibers is relatively small in most persons not occupationally exposed to asbestos compared with the numbers found in the occupationally exposed. The systematic application of quantitative techniques, measuring both coated and uncoated fibers, is needed to define a gradient of accumulated fibers for correction with incidence of disease, on the one hand, and history of environmental exposure, on the other.

The methodology for quantification of asbestos fibers of varying sizes is such that the results obtained in one laboratory may vary substantially from those in another. An inter-agency governmental task force together with other scientists working in this field is currently attempting to develop standard technology which can be applied to the identification and qualification of asbestos fibers. The Environmental Protection Agency is currently investigating four separate techniques in order to establish the best method for identification, quantification, sizing and typing of asbestos particles and fibers. At present, the National Institute for Occupational Safety and Health (NIOSH) recommends, as a technique for sampling of air, a method based on counting fibers greater than 5 microns in length using phase contrast illumination at 430x magnification with a 4 millimeter objective (Refs. 38 and 39). This technique is currently recommended for liquid materials until more accurate and sensitive practical methods are developed. However, as indicated below, another method is proposed for analysis of asbestos fibers in a material such as talc.

The evidence concerning the possible hazard from ingestion of asbestos particles is contradictory and inconclusive:

In an unpublished study by L. M. Swinburn (Ref. 40), asbestos particles were fed once a week to SPF Wistar rats for 16 and 18 weeks. The material was administered in butter. Although the particles were of the size range known to produce tumors by other modes of administration, no tumorgenic effect was noted. With a single large dose, the fibers were totally cleared by the gastrointestinal tract in 48 hours and no asbestos was detected in the animal tissues at the end of 1 week. The gastroinstestinal tract of the rat seemed to provide an effective barrier to penetration.

In a published study by W. E. Smith, *et al.* (Ref .41), hamsters maintained on a diet of 1 percent chrysotile or amosite through life had no gastrointestinal tumors.

A report by Westlake, Spjut and Smith (Ref. 42) indicates that the rat colonic mucosa is penetrated by chrysotile after feeding a diet containing 5 percent asbestos for 3 months.

Cunningham and Pontefract (Ref. 43 and 44) injected chrysotile fibers (9.4 and 94 x 10^9) directly into stomachs of rats. Fibers were found in blood and other organs, 2–4 days after treatment. Control rats, although having no asbestos in blood, also had high levels of asbestos in tissues.

These workers found that, whereas the tap water in Ottawa (having a filter plant) contained about 2 million fibers per liter, the quality of fibers in soft drinks and alcoholic beverages purchased in the Ottawa area ranged from 1 to 12 million fibers per liter. Even with the technical problems of methodology, this seems to indicate that in some beverages the asbestos content may be about the same as in water, whereas, in others, it may be increased. Thus, it is reasonable to conclude that water and many other beverages for human consumption contain substantial amounts of asbestos fibers.

There is some evidence that asbestos filters may remove some asbestos material. In a preliminary experiment performed by the Food and Drug Administration, asbestos was added to distilled water and dispersed evenly by the action of an ultrasonic generator. Electron microscopy of this material clearly showed large numbers of asbestos fibers. This material was then filtered through an asbestos filter, and electron microscopic examination of the filtered material showed a reduction in the number of asbestos fibers.

Nicholson and his colleagues (Ref. 45) investigated a number of samples of parenteral drugs and found asbestos fibers. Based on their report a study was undertaken by the Food and Drug Administration concerning contamination of parenteral drugs with asbestos. Although the data are still preliminary, the following observations are pertinent. Parenteral drug samples were collected from a number of firms. Based on phase contrast microscopy, 11 of 13 samples had clear-cut evidence of the presence of asbestos, one sample was questionably positive, and one was negative. The number of fibers ranged from 2 to 27 in the positive specimens of variable sample size. Using electron microscopy, 12 of the 12 samples examined were positive. Quantitation is not yet complete.

In this survey, seven of 13 manufacturers of parenteral drugs do not use asbestos filters; four firms use such filters

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followed by final membrane type filters (one of these uses asbestos filters for its rinse water without final filtration of such water); and two firms use asbestos filters only for their rinse water, without final filtration.

The preliminary report of these studies is on display at the Office of the Hearing Clerk. Any other scientific data in this regard should be submitted to the Hearing Clerk.

Certain parenteral drugs, such as blood fractionation products, may be filtered several times through asbestos filters. Thus far, it is not known with certainty whether the more viscous products could be successfully processed through terminal membrane filters without compromising safety, identity, strength, quality or purity. The precise effect of asbestos pad filtration on removal of pyrogens (Ref. 46 and 47) is not completely known at the present time. Currently the Food and Drug Administration is surveying the industry for information concerning the use of asbestos filters. Results of this survey will be incorporated in the public record.

Although the major experimental studies of asbestos have involved inhalation of fibers so as to simulate occupational exposure, several studies have been performed to investigate the effect of parenteral inoculation of asbestos fibers. In 1958, Schmähl (Ref. 48) reported that implantation of asbestos fibers and crumbs in either the subcutaneous tissue or in the peritoneum lead to the development of malignant tumors (sarcomas) in 11 of 30 rats which survived longer than 15 months after such implantation. Roe and his colleagues (Ref. 49, 50, 51) have performed a number of studies in which asbestos fibers were injected subcutaneously (Ref. 49) into the flanks of mice. In the first experiments, crocidolite, amosite and chrysotile asbestos fibers were used and each animal was injected twice subcutaneously in both flanks with 10 milligrams of fibers in saline with an interval of five weeks between the injections. Seven of seventy-one mice which survived 40 weeks or more developed injection site tumors. In addition, one mouse developed a mesothelioma of the peritoneum underlying the injection site. The injection site sarcomas were produced by all three types of fibers. In addition, Roe *et al* (Ref. 49) showed that the asbestos fibers were widely disseminated from the local injection sites being deposited rather selectively on the serosal surfaces of the abdominal organs and the retroperitoneal structures as well as on the pericardium, diaphragm, pleura and adjacent parts of the lungs and heart. These serosal surfaces reacted vigorously to the presence of the asbestos fibers and in 10 of 71 mice, malignant mesotheliomas of the thorax and/or abdomen developed. In a later study (Ref. 51) Kanazawa *et al* showed that, after subcutaneous injection of asbestos fibers in mice, fibers could be found to have disseminated to regional and distant lymph nodes, spleen, kidneys and occasionally to brain tissue suggesting that some asbestos may enter the circulation.

Thus, there is experimental evidence that parenteral administration of asbestos fibers may lead to wide dissemination of such fibers in animals and to the development of local malignant tumors as well as malignant mesotheliomas of the pleura and peritoneum similar to those that occur after inhalation of asbestos fibers.

The problem of asbestos in the total environment, to which the worldwide scientific community is addressing itself, is very complex. The Environmental Protection Agency has published in the FEDERAL REGISTER of April 6, 1973 (38 FR 8820) national emission standards for asbestos milling and manufacturing based on the determination that asbestos is a hazardous air pollutant. This standard has been developed despite the fact the EPA also recognizes that a "standardized reference method has not been developed to quantitatively determine the content of asbestos in a material."

The present status of this problem is summarized by the report of a committee prepared subsequent to a meeting sponsored by the International Agency for Research on Cancer (Ref. 52). The Food and Drug Administration's review of this report indicates the following areas of further research are necessary:

(1) Further epidemiology, particularly with respect to past exposure to asbestos and cancer of sites other than lung, pleura, and peritoneum.

(a) Assessment of excess cancer risks following exposure to only one type of fiber.

(b) Investigation of whether reduction of asbestos exposure in lungs below those causing asbestosis abolishes excess risk of carcinoma.

(c) Investigation of evidence of an increased risk of cancer resulting from asbestos in water, beverages, food, or liquids used for the administration of drugs.

(2) Development of methods of quantitative assessment, size analysis and characterization of particles and fibers.

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The Commissioner recognizes that it is not possible to eliminate all sources of asbestos contact with food and drugs. Asbestos is used in virtually all pipes carrying drinking water, in buildings in which food and drugs are manufactured, and in many filtering systems used in the manufacture of food and drugs, and is found in some substances, notably water and talc, used in the manufacture and processing of food and drugs. Nevertheless, the Commissioner also recognizes that asbestos fibers perform no functional purpose in talc and are an unnecessary contaminant. It is therefore reasonable to require precautions to be taken in the manufacure of food and drugs, as part of good manufacturing practices, to assure that the amount of asbestos fibers in any food or drug is reduced to the minimum feasible level. Accordingly, the Commissioner has concluded to take the following action:

1. In view of the demonstrated hazard in animals from injection of asbestos fibers, the Commissioner is proposing that the good manufacturing practice (GMP) regulations for drugs be amended to require that filtration procedures for parental drugs shall utilize either a non-asbestos-containing or non-fiber-releasing filter such as a membrane filter or, if an asbestos-containing filter is necessary, shall also utilize an additional non-asbestos-containing or non-fiber-releasing filter such as a membrane filter to reduce asbestos fiber content to the minimum level feasible unless such a subsequent filter will compromise the safety, identity, strength, quality or purity of the product.

2. The Commissioner intends to promulgate a final regulation for talc under § 121.2006 as soon as a method for determining asbestos fibers in food-grade talc is validated. Such a method is proposed below, as part of a republication of the earlier proposal in which no methodology was specified. The Commissioner concludes that a final regulation for talc under Part 121 cannot be promulgated until a reproducible and accurate method can be specified for compliance purposes.

3. The Commissioner is also proposing that any talc used in the manufacture or processing of drugs meet the specifications for this substance that will be imposed by § 121.2006.

4. The Commissioner realizes that the issues raised in this notice are complex and have widespread ramifications. Comment is requested on all aspects of the public health significance of ingestion and injection of asbestos fibers. Since adoption of any new filtration requirements may require use of additional equipment, comment on the availability of appropriate equipment, the need for use of asbestos-containing filters as contrasted with filters which contain no asbestos, and the time needed to obtain and begin using non-asbestos-containing final filters such as membrane filters, is also requested. Finally, comment on methods of quantitative assessment, size analysis, and characterization of particles and fibers, is essential in order to develop final methods on which accurate and fair compliance can be based.

Therefore, pursuant to provisions of the Federal Food, Drug, and Cosmetic Act (secs. 402, 502, 701, 52 Stat. 1046-1047, as amended, 1050-1051, as amended, 1055-1056, as amended; 21 U.S.C. 342, 352, 371) and under authority delegated to him (21 CFR 2.120), the Commissioner of Food and Drugs proposes to amend Title 21 of the Code of Federal Regulations as follows:

1. In Part 121 by amending § 121.101 (d)(8) by alphabetically adding to the table a new item and in paragraphs (h) and (i) by revising the entry for "talc", to read as follows:

§ 121.101 Substances that are generally recognized as safe.

* * * * * * *

(d) * * *

Product	Tolerance	Limitations or restrictions
* * *	* *	* *
(6) Miscellaneous and/or general purpose food additives.	.....	
* * *	* *	* *
Talc (free of asbestos fibers as determined in § 121.2006).	.....	In chewing gum base and as an antisticking agent in forms used in molding food shapes.
* * *	* *	* *

(h) * * *

Talc (free of asbestos fibers as determined in § 121.2006).				
* * *	* *	* *	* *	* *

(i) * * *

Talc (free of asbestos fibers as determined in § 121.2006).				
* * *	* *	* *	* *	* *

2. In Part 121 by amending Subpart E by adding the following new section:

§ 121.2006 Talc.

(a) Talc is a naturally occurring hydrous magnesium silicate subject to a prior sanction for use in coating polished rice. It is found in natural deposits that may be contaminated with asbestos fibers.

(b) Good manufacturing practice requires that talc be free from asbestos fibers to the maximum extent practicable. Accordingly, any food or food-packaging material containing talc that is not free from asbestos fibers as determined by the method set out in paragraph (c) shall be deemed to be adulterated in violation of section 402(a)(1) of the act.

(c) The following method shall be used to determine compliance with this section:

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(1) The various kinds of asbestos are distinguished from talc and from each other by their refractive indices, other optical crystallographic properties, and morphology as determined with a polarizing microscope (Methods of the Association of Official Analytical Chemists, 11th Ed., 1970, Sections 36.541-36.543, p. 717-721).[1] Talc occurs mainly in the form of thin plates, which may appear fibrous when seen edgewise in microscopic view. Beta and gamma indices of talc vary from about 1.575 to 1.590, beta being very close to gamma. All of the principal refractive indices of chrysotile are less than 1.590. Chrysotile asbestos is therefore distinguishable from fibrous looking talc particles in a 1.574 refractive index liquid and the other five amphibole types of fibrous asbestos from talc in a 1.590 refractive index liquid. The table of optical crystallographic properties for talc and the asbestos minerals in subparagraph (3) shows refractive indices which are usually encountered in these minerals, but occasional samples may have indices which are somewhat higher or lower. For practical measurement of optical properties shown in the table, particles identified by this method should be at least 5 μm or longer.

(2) Weigh out 1 milligram of a representative portion of talc on each of two microscope slides. Mix the talc with a needle to spread evenly over the suitable area on one slide with a drop of 1.574 refractive index liquid, and then the other with 1.590 liquid, and place on each a square or rectangular cover glass sufficiently large so that the liquid will not run out from the edge (ca. 18 mm. square) and will provide a uniform particle distribution. Fibers counted by this method should meet the following criteria: (i) Length to width ratio of 3 or greater (ii) length of 5 μm or greater (iii) width of 5 μm or less. Count and record the number of asbestos fibers found in each 1 milligram as determined from a scan of both slides with a polarizing microscope at a magnification of approximately 400 X. In the 1.574 refractive index liquid, chrysotile fibers with indices less than 1.574 in both extinction positions may be present; in the 1.590 refractive index liquid, the other five amphibole types of asbestos fibers with indices exceeding 1.590 in both extinction positions may be present. Check the extinction and sign of elongation for tentative identification. For specific identification of asbestos fibers, make additional mounts in appropriate refractive index liquids, and refer to the optical crystallographic data in the table. A count of not more than 1000 amphibole types of asbestos fibers and not more than 100 chrysotile asbestos fibers per milligram-slide constitutes the maximum limit for the presence of these asbestos fibers in talc. These limits assure a purity of talc at least 99.9 percent free of amphibole types of asbestos fibers and at least 99.99 percent free of chrysotile asbestos fibers.

(3) Optical crystallographic characteristics of asbestos minerals and talc:

EXAMPLES OF REFRACTIVE INDICES (n)

Substance	n_α	n_β	n_γ	Extinction	Elongation
Actinolite	1.614	1.630	1.641	Inclined	Positive.
	1.615–1.655	1.625–1.665	1.64–1.68		
Amosite	[1] 1.663		1.690		
	[1] 1.675		1.703		
Anthophyllite	1.668	1.623		Parallel	Positive.
	1.598		1.623		
	1.606–1.674	1.606–1.683	1.615–1.697		
	1.608		1.631		
	1.619	1.630	1.640		
	1.619–1.633	1.630–1.642	1.640–1.657		
	1.629	1.635	1.649		
	1.633	1.634	1.652		
Chrysotile	1.493	1.504	1.517	Parallel	Positive.
	1.508	1.512	1.522		
	1.529–1.550	1.530–1.564	1.537–1.557		
	1.53 –1.54		1.54 –1.55		
	1.542		1.555		
	1.542	1.543 (calc.)	1.558		
	1.546	1.550	1.557		
	1.546	1.557	1.557		
	1.548	1.560	1.560		
Crocidolite		1.695		Parallel	Negative.
	1.693	1.695	1.697		
	1.697	1.700	1.703		
Talc	1.538–1.545		1.575–1.590	Parallel or 2° or 3°	Positive.
	1.539	1.589	1.589		
	1.539	1.589	1.589		
	1.539	1.589	1.589		
	1.540	nearly-n	1.575		
	1.541	1.585	1.585		
	1.544	1.592	1.592		
		1.594	1.594		
	1.545	1.584	1.584		
Tremolite	1.599	1.613	1.625	Inclined	Positive.
	1.599	1.613	1.625		
	1.599–1.612	1.612–1.636	1.625–1.637		
	1.600	1.616	1.627		
	1.602	1.614	1.635		
	1.602	1.618	1.631		
	1.602–1.623	1.613–1.634	1.624–1.650		
	1.604	1.612	1.628		
	1.604	1.617	1.630		
	1.609	1.622	1.636		
	1.609	1.623	1.636		
	1.613	1.621	1.634		

[1] $\frac{n+n}{2}$.

3. In Part 133 by adding the following new paragraph (i) to § 133.6 to read as follows:

§ 133.6 Components.

• • • • •

(i) Talc is a naturally occurring hydrous magnesium silicate which may reasonably be expected to contain asbestos fibers which may be injurious to health. Current methodology cannot assure the absence of asbestos in talc. Accordingly, any drug, drug ingredient, or drug packaging material containing talc that fails to meet the specifications of paragraph (c) of § 121.2006 of this chapter as determined by the method set out in that paragraph shall be deemed to be adulterated in violation of section 501(a) of the Act.

4. By adding the following new paragraph (j) to § 133.8 to read as follows:

§ 133.8 Production and control procedures.

• • • • •

(j) Use of asbestos-containing filters: Filters used in the manufacture of a parenteral drug or parenteral drug ingredient shall not release fibers into such products. No asbestos-containing or fiber-releasing filter may be used in the manufacture of a parenteral drug or parenteral drug ingredient unless it is not possible to manufacture that drug or drug ingredient without the use of such a filter. If use of such a filter is required, an additional non-asbestos-containing or non-fiber-releasing filter such as a membrane filter shall subsequently be used to reduce the content of any asbestos-form particles in the drug or drug ingredient. Evidence for reduction shall be based on the use of the methods described in "Criteria for a Recommended Standard—Occupational Exposure to Asbestos," Report of Review Committee, National Institute for Occupational Safety and Health, Publication No. HSM 72-10267 (1972).[2] Use of an asbestos-containing filter without subsequent use of an additional non-asbestos-containing membrane filter is permissible only upon submission of proof to the Food and Drug Administration that use of a non-asbestos-containing membrane

[1] Copies may be obtained from: Association of Official Analytical Chemists P.O. Box 540, Benjamin Franklin Station Washington, DC 20044

[2] Copies may be obtained from: Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

A 1337, C UCC 003496

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filter will, or is likely to, compromise the safety or effectiveness of the drug.

Interested persons may, on or before December 27, 1973, file with the Hearing Clerk, Food and Drug Administration, Rm. 6-86, 5600 Fishers Lane, Rockville, MD 20852, written comments (preferably in quintuplicate) regarding the petition and the Commissioner's proposal. Comments may be accompanied by a memorandum or brief in support thereof. The petition, background information referred to in this proposal, and comments received may be seen in the above office during working hours, Monday through Friday.

Dated September 24, 1973.

A. M. SCHMIDT,
Commissioner of Food and Drugs.

[FR Doc.73-20711 Filed 9-27-73;8:45 am]

Social and Rehabilitation Service

[45 CFR Part 221]

FAMILIES, CHILDREN, AGED, BLIND, OR DISABLED INDIVIDUALS

Service Programs; Correction

FR Doc. 73-19242, published at page 24872 in the issue dated Monday, September 10, 1973, is corrected by changing:

1. The number "233" in item number two of the preamble, fifth line, to "233½";
2. The code designation "221.6(a)(3)(i)" in item number two of the preamble, seventh line, to "221.6(c)(3)(i)";
3. The code designation "211.6(a)(3)(iii)" in item number three of the preamble, fourth line, to "221.6(c)(3)(iii)";
4. The code designation "211.6(a)(3)(vii)" in item number four of the preamble, fourth line, to "221.6(c)(3)(vii)";
5. The code designation "211.7(b)" in item number five of the preamble, fourth line, to "221.7(b)";
6. The code designation "211.9(b)(3)" in item number seven of the preamble, sixth line, to "221.9(b)(3)";
7. The code designation "221.6(a)(3)" in the words of issuance, number three, first line; and in § 221.6(a)(3) itself, first line, to "221.6(c)(3)";
8. The number "8" in § 221.6(a)(4), (now corrected to § 221.6(c)(4)), fourth line, to "6"; and
9. The word "secured" in § 221.9(b)(5), fourth line, to "secure".

Approved September 24, 1973.

THOMAS S. MCFEE,
Deputy Assistant Secretary for Management Planning and Technology.

[FR Doc.73-20726 Filed 9-27-73;8:45 am]

A 10371
UCC 003497

September 28, 1967

Dr. T. J. Hall
Union Carbide Belgium N.V.
149, Avenue Louise
Brussels 5, BELGIUM

Subject: Asbestos Fiber Importers Committee

Dear Tom:

Please refer to your letter of September 13 to Mr. Dexter.

Your feeling of continuing to cooperate with the Asbestos Fiber Importers Committee seems to be about the wisest course to follow short, as you say, of incurring any obligations in any other area of our asbestos activities. As Frank Dexter points out, it is entirely possible the same problem will arise elsewhere so that what we learn here may continue to be useful in more ways than one.

On reviewing the history and correspondence, the impression is gained that we have gone quite a ways toward meeting the objections to handling asbestos, and I wonder whether our work with pallets, paper rather than cloth bags, cardboard boxes, etc. doesn't stand us in good stead.

In brief we suggest you cooperate with the Committee and keep us informed of developments.

Very truly yours,

T.F.Frangos/jvp
Associate Product Marketing Manager

cc: Mr. F.D. Dexter - NYC
cc: Mr. J.J. Setter - NYC
cc: Mr. M.P. Ballmer - NYC
cc: Mr. I.C. Sayers - London

A 10036

UCC 003498

CHEMICALS AND PLASTICS

270 PARK AVENUE, NEW YORK, NEW YORK 10017

To (Name) Mr. T. F. Frangos
Division
Location 29th Floor

Date September 20, 1967

Originating Dept.

Answering letter date

Copy to

Subject

Relative to the letters Tom Hall wrote to me dated 5 September and 13 September, I suggest we answer as follows:

a. The matter of price in the 5 September letter was already answered by you although you may wish to expand upon it.

b. We appreciate the efforts to establish a '68 plan and await the details with interest.

c. We recognize the problems of selling Asbestos T in Europe and are looking at the possibility of making "T" in Europe. We have nothing specific on this yet and any plans will be thoroughly checked with the European people before they are firmed up.

d. In reference to the work with the Importers Committee, I would recommend that we continue to maintain an active contact with this group and work with them. Naturally, we will wish to avoid obligations on our part insofar as possible and also if we can capitalize on the fact that we ship pellets we should do so. Under any conditions, close communications with what's going on here I regard as highly desirable since there is at least a possibility that this same type of situation will spring up elsewhere.

Frank

F. D. Dexter

FDD/lr

A-0507

UCC 003499

RECEIVED
SEP 19 1967
T.F. FRANGOS

UNION CARBIDE BELGIUM N.V.

V/REF.
N/REF. 1415 TJH/MLF

BRUXELLES 5, 13 September, 1967
149, AVENUE LOUISE

Mr. F.D. Dexter
45th floor
Union Carbide Corporation
270 Park Avenue
New York 10017

Dear Frank:

I am enclosing with this a copy of a report made by Ian Sayers, our asbestos representative in the U.K., concerning a recent meeting he attended of the Asbestos Fiber Importers Committee. The details of the meeting are given in the report.

I believe it is evident from the report that all asbestos producers are facing a very serious problem in the U.K. in getting their material handled on the docks. It appears that the situation is not going to get any better as the popular publications continue their series of exposés about the dangers of asbestos.

My purpose in writing to you is to ask for your comments concerning the advisability of our continuing to work with this industrial committee. I am sure you are aware that we have always avoided any close connections with the conventional asbestos producers so that we could maintain a free hand in all of our production and marketing decisions. In this case, however, it appears that we may have something to gain in joining in a common fight against an emotional problem. I feel that we should continue to cooperate with this group as long as we can do so without incurring any obligations in any other area of our asbestos activities. Here I guess you will have to rely on us to keep out of any unwanted entanglements. I do not intend that either Ian or I proceed further until we have some comments back from you on this subject. If you are neutral then we will proceed to cooperate at "arms length". I will keep you fully advised. What do you think?

Best regards,

THOMAS J. HALL.

cc: T.F. Frangos
I. C. Sayers
N.J. Setter

A 10338

SCHELDELAAN - ANTWERPEN 3
TEL. (03) 41.20.20 - TELEX : 31577
TELEGR. UNICARBIDE - ANTWERPEN

AVENUE LOUISE 149 - BRUXELLES 5
TEL. (02) 38.80.60 - TELEX 23180
TELEGR. UNICARBIDE - BRUXELLES

HANDELSREGISTER ANTWERPEN 145.223

UCC 003500

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SAYERS' REPORT ILLEGIBLE. SUMMARY FOLLOWS:

AFIC IS 11 ENGLISH IMPORTERS. NEW DOCK & FACTORY REGULATIONS IMMINENT. ARE WORKING WITH GOV'T & UNIONS TO LIMIT AREA OF AGITATION & TO AGREE ON USING IMPERMEABLE BAGS. DOCKERS MAY WANT DRUMS OR CONTAINERS.

OUR TELESCOPING SHROUD LOOKED GOOD TO EMPLOYERS' REP, BUT DOCKERS' REP DIDN'T SEE IT.

QUEBEC CHRYSOTILE ALSO HAS PROBLEMS W/ PALLETS SETTLING DURING SHIPMENT, NOT SO W/ AMOSITE OR CROCIDOLITE.

CANADIANS SEEM TO THINK BY IGNORING THE PROBLEM IT WILL GO AWAY. SAYERS THINKS THE DOCKERS INTEND TO STOP ALL ASBESTOS SHIPMENTS.

A 10039

UCC 003501

C 149.2

INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION

270 PARK AVENUE, NEW YORK, NEW YORK 10017

RECEIVED
MAY 19 1971
UCC - CALIDRIA
NIAGARA FALLS, N.Y.

TPN
FAL

To (Name)	Mr. J. L. Myers	Date	May 14, 1971
Division	Mining & Metals Division		
Location	P. O. Box 579 Niagara Falls, New York	Originating Dept.	Medical Department
		Answering letter date	
Copy to	Mr. R. E. Byrne Dr. C. U. Dernehl Mr. J. W. Rawlings Dr. H. B. Rhodes	Subject	Toxicology

RECEIVED
UCC - CALIDRIA
SAN FRANCISCO, CA.

Dear John:

For some time it has been rumored, if not officially stated, that asbestos would be on the first list of hazardous materials to be named by EPA. Actually the few materials named so far are only the beginning of the list. I believe there will be added lead, arsenic, selenium, chromates, manganese, some nickel compounds, chlorine, sulfur dioxide, phosphine, arsine, nitrogen dioxide and various organic compounds along with other materials that I have overlooked. As a matter of fact, if toxic response to small quantities is the criteria, then the list will be long indeed. Therefore, you can reasonably argue, I believe, that the need for control of exposure to asbestos is not greatly different from a similar need in relation to many materials that are common in our daily lives. We believe that adequate control is practically possible.

Asbestos, of course, is a toxic material that must be carefully controlled to prevent over-exposure of people who handle it or live near areas where it is handled. This we must accept. However, we argue that it is a material of great merit in many applications and that the control required is not greatly different from that we would provide for many other materials. This will be particularly noted as the nation feels the full impact of the new Occupational Safety and Health Act that became effective April 29, 1971.

I see nothing to be gained by questioning EPA on the toxicity of asbestos at this time. There has been too much publicity on it recently for their stand to be modified without strong evidence to the contrary. Actually, if we can get them and other official agencies to accept a belief that control in use and application is reasonably possible, we shall have accomplished a great deal.

Very truly yours,

Paul W. McDaniel

Paul W. McDaniel
Industrial Hygiene Engineer

PWM: dp

A 1803

UCC 003502