



alsop ENGINEERING CORPORATION

Milldale, Connecticut 06467

(203) 628-9661

Cable: SPEEDHY

December 19, 1973

The Hearing Clerk
Food and Drug Administration
Room 6-86
5600 Fishers Lane
Rockville, Maryland 20852

Ref: 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

Gentlemen:

In response to your request for comments as delineated in the Federal Register Vol. 38, No. 188, dated Friday, September 28, 1973, we wish to comment as follows:

Comments on the Food and Beverage Aspect

We fully agree and commend the Food and Drug Administration's position of non-regulation on the use of cellulose/asbestos filters for foods and beverages for the following reasons:

1. The best medical evidence available on ingestion of asbestos fibers indicates that no actual hazard exists. This is confirmed by the results of a recent joint conference of the National Institute of Environmental Health and Safety and the Environmental Protection Agency held in Durham, North Carolina on November 18th through 20th. Additionally, the Advisory Committee on Asbestos Cancers reported to the Director of the International Agency for Research on Cancers in Lyon, France in October of 1972, the following: "Is there any evidence of increased risk of cancer resulting from asbestos fibers present in water, beverages, food, or in the fluids used for the administration of drugs? Such evidence as there is does not indicate any risk."
2. Asbestos is omni-present in the air, water and earth's crust. A limitation or ban on cellulose/asbestos filters for use on processing foods or beverages would not meaningfully reduce the asbestos contamination level. On the contrary, it may even increase the contamination level as it has been clearly shown that cellulose/asbestos filters effectively remove asbestos fibers from liquids.
3. The quantity of asbestos fiber normally found in potable liquids is vanishingly small. For example, a recent study in Great Britain, has shown that only 2/1000 of an ounce of asbestos is present in over 1,000,000,000 gallons of British beer.

75P-0261

(continued)

C34

4. Chrysotile asbestos used in the manufacture of cellulose/asbestos filters has been shown to be attacked by gastric juices and forms a hydrated silica gel, without the usual fiber characteristics. Thus, the possibility of penetration of the GI tract is nil. Moreover, chrysotile asbestos is, by nature, a soft flexible and acid sensitive fiber as compared to other types such as crocidolite which is a harsh, spike-like and acid resistant fiber.
5. Cellulose/asbestos filters are used in the food and beverage industry for good and sufficient reasons, not the least of which is for the removal of poisonous catalysts and dangerous bacteria. Additionally, clarification, solid/liquid concentration, sub-micronic particulate removal, are readily and economically accomplished by the use of cellulose/asbestos filters.
6. Due to its unique properties, cellulose/asbestos filters, in many applications, is the only filtration technique available at reasonable cost. A limitation or ban would impose a severe economic hardship in the industry and result in substantial added cost to the consumer.

Comments on Parenteral Drug and Drug Ingredient Aspect

We strongly object to the intent and wording of the proposed new rule described under paragraph 133.8 as published in the Federal Register, Vol. 38, No. 188, dated Friday, September 28, 1973. We believe this proposed rule pre-supposes that infinitely small quantities of asbestos fiber, without regard to type or size, found in parenteral drugs, presents a hazard to the end-user and that the source of the asbestos fibers is cellulose/asbestos filters. We respectfully request that the Food and Drug Administration consider the following wording which is suggested only for the reason that good manufacturing practice requires parenteral drugs to be as free as possible of all extraneous contaminant.

"Filters used in the manufacture of a parenteral drug or drug ingredient shall not release any extraneous material such as asbestos, carbon, diatomaceous earth, silica, etc., into such products, unless an additional suitable non-migrating filter such as a membrane filter is subsequently used to reduce the extraneous contaminant to a minimum level. Use of filters that may release extraneous contaminant without subsequent use of a suitable non-migrating filter, such as a membrane filter, is permissible only upon submission of proof to the Federal Drug Administration that the use of a non-migrating filter will, or is likely to, compromise the safety or effectiveness of the drug."

Our reasons for requesting the above change in the proposed rule making are as follows:

1. Massive and repeated injected doses of asbestos fibers without regard to fiber type or size given to laboratory animals for the purposes of analysis, does not constitute scientific evidence that asbestos fiber of the type and size and quantity that may be present as a contaminant in parenteral drug products constitutes a hazard to the end-user.
2. Asbestos is omni-present in the air, water and earth crust. A limitation or ban on the use of cellulose/asbestos filters will not meaningfully reduce the amount of asbestos contamination in parenteral drug and drug products. A recent Food and Drug Administration survey by Dr. J. Richard Crout clearly demonstrates this. The results of the report show:

(continued)

- a. Out of 7 product samples collected from 7 firms not using cellulose asbestos filters, 5 samples contained asbestos and 2 samples could not be analyzed due to preparation problems.
- b. Out of 8 product samples collected from 6 firms using cellulose/asbestos filters with or without membrane filters, 6 samples were contaminated with asbestos and 2 could not be analyzed due to preparation problems.
- c. One firm in the survey submitted 2 samples. Sample A was filtered through a cellulose/asbestos filter and contained 3 asbestos fibers in one milliliter sample. Sample B was identical but was filtered through a membrane filter only (Company had discontinued using cellulose/asbestos filters) and contained 11 fibers of asbestos in one milliliter sample.

This evidence strongly indicates that regardless of whether a cellulose/asbestos filter is used and regardless of whether a membrane filter is used subsequently, there is going to be asbestos contamination of parenteral drugs due to the ubiquitous nature of asbestos. Moreover, a subtle danger exists, if a ban or partial limitation on the use of such filters is promulgated, we believe that the tendency towards monitoring asbestos contamination will be minimized as it will be anticipated that the source of the contamination has been effectively eliminated.

3. It has been clearly demonstrated that cellulose/asbestos filters used in the industry have the ability and capacity to effectively remove asbestos fibers from liquid streams. A recent FDA report by Mr. Philip McGrath to Dr. Armand Casola, dated July 10, 1973, shows vividly that a cellulose asbestos filter almost entirely eliminates asbestos from a liquid that was intentionally heavily laden with asbestos fibers.
4. Due to the uniqueness of cellulose/asbestos filters, a host of delicate and heat liable parenteral products can be effectively purified. In particular, pyrogen removal and cold sterilization of heat liable parenteral products is effectively accomplished. A separate partial list of products routinely filtered with cellulose/asbestos filters is enclosed. Contrary to reported comments, viable alternative filtration techniques simply do not exist for many parenteral products.
5. Cellulose/asbestos filters are depth type filters having the capacity to retain pyrogens, dangerous bacteria and particulate matter within the structure of the media. Whereas membrane filters are considered surface filters, having the capacity to retain particulate matter only on the surface of the media. This significant difference results in substantially higher throughputs in favor of cellulose/asbestos filters when compared to membrane filters. Moreover, cellulose/asbestos markets for approximately 16¢ per square foot whereas, membrane filters market for approximately \$3.75 per square foot, depending on the size and type. When one combines the throughput factor and the cost differential, it can be shown that the cost of operating a straight membrane filter versus a cellulose/asbestos filter can realistically approach one hundred fold. In those instances where membrane can be used in place of cellulose/asbestos filters, the cost may well be staggering.

(continued)

6. That portion of the proposed rule, paragraph 133.8, relating to evidence of reduction shall be based on the use of 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)" is not relevant. This criteria was developed for evaluating and analyzing airborne asbestos concentration for the purposes of developing an occupational exposure standard. In the recent FDA report by Dr. J. Richard Crout, considerable difficulty in trying to apply this methodology was reported. "The proposed methodology for light microscopy was modified (Tab B) by our New York laboratory analyst because of severe problems encountered in the filtration process and the preparation of membrane filter for observation of the different samples." "It cannot be stressed strongly enough that each drug product, when subjected to the analytical procedures, presented its own individual problems of preparation due to its distinctive chemical and physical properties and mode of preparation. Therefore, it may be necessary to utilize a different and possibly unique procedure rather than a standard one in order to render each amenable for analysis."

We believe that that portion of the proposed rule, paragraph 133.8, is firstly not necessary and, secondly, the proposed criteria for reduction is not a workable methodology.

7. The proposed regulation as written would pose serious problems for the FDA in establishing criteria to determine if a parenteral drug could or could not be manufactured without the use of a cellulose/asbestos filter.
8. From an enforcement standpoint, it would be far simpler for an FDA inspector to determine compliance by just checking to see if an after-filter was being used.
9. Public health will be no better served by the proposed regulation as written than by the suggested revision. However, serious administrative and enforcement difficulties can be circumvented if the recommended revisions are made.

Comments on Petition Filed by the Center for Science in the Public Interest and the Environmental Defense Fund

The Commissioner has solicited comments regarding the above captioned petition. We would like to state, for the record, that we believe this to be a very cleverly worded document that is not substantiated by scientific evidence. As manufacturers of cellulose/asbestos filters, we cannot comment on the talc aspect of the petition, however, we do have several comments to make regarding the filter aspect.

In Section 1 of the petition, the petitioners comment on the existence of practical alternatives to the use of asbestos filters. They claim that the alternatives are readily available, however, they fail to cite even one "practical alternative". They also infer again, in Section 1, that if action is not taken immediately, there may be irreparable injury to the public on a massive scale. We believe that if any so-called asbestos epidemic was to have occurred, it certainly would have by this time, inasmuch as asbestos has been used as a filtration aid for some 85 years. This certainly is ample time for any "massive injury" to have manifested itself.

(continued)

Section 5 of the petition states that the presence of asbestos in food and drugs is well documented. However, the petitioners neglected to supply a bibliography of the documents. Moreover, they claim that the two primary routes of the contamination of foods and drugs are asbestos filters and talc. No comment is made regarding the ubiquitous nature of asbestos as a primary route of contamination. Again, under Section 5, the petition references the presence of asbestos particles in liquids filtered through asbestos filters, the inference being that the asbestos contamination did, in fact, come from the asbestos filters. The technical papers cited do not prove that the contamination, in fact, came from the asbestos filters but actually may have come from other sources of contamination.

Under Section 6, the petition cites a number of epidemiological studies which relate entirely to the occupational hazard aspect of asbestos, the inference being that this data applies directly to food and drug products which are contaminated with vanishingly small quantities of asbestos. We have not seen any evidence that, despite 85 years of usage of asbestos filters, that anyone has ever contracted cancer in any form from consumption (injected or ingested) of products filtered through an asbestos/cellulose filter. The petition further comments, under Section 6, to the effect that, although studies have shown no excessive tumor has been observed in the gastrointestinal tract of animals fed asbestos, other animal tests have confirmed the carcinogenic properties of asbestos, the inference being here that animals which have been injected with massive repeated doses of asbestos fibers, without regard to size and type, and have contracted cancer proves that infinitesimally small quantities of asbestos which enter the GI tract will also cause cancer.

Again, in Section 6 of the petition, they speak of other consumer products being an important source of asbestos exposure, namely, talcum powders, ironing boards, drapes, blankets, coats, gloves, plaster, wallboard, papier-mache, etc. We are curious as to whether or not the petitioners expect to extend their petition to have these consumer products banned as well?

Under Section 7, the petition asks the Commission to prohibit, immediately, any intentional direct or indirect addition of asbestos to foods, at least until such time as it has been conclusively shown that asbestos is not carcinogenic when ingested. Regarding this comment, we would ask the petitioners this question, "since when, in this country, are you guilty until proven innocent?"

In Section 8, on page 22, in the footnote, the petitioners infer that if cellulose asbestos filters are prohibited, there would be no need for analytical tools such as an electron microscope. We believe that whether or not a ban or partial ban on the use of asbestos filters is finally promulgated, no meaningful reduction in asbestos contamination will occur, and that manufacturers of parenteral drugs must still maintain in-house analytical procedures for the determination of whether or not their products contain any extraneous material such as asbestos.

(continued)

December 19, 1973

In closing, we would respectfully request that the Commission give full and thoughtful consideration to the comments presented herein and, we trust, that if any regulations regarding cellulose/asbestos filters are promulgated, they will be fair, reasonable, and based on sound scientific evidence.

ALSOP ENGINEERING CORPORATION



Gerald Marconis
Vice President - Operations

GM/dr
Enc.

also

ENGINEERING CORP.

AN ALL-TECH COMPANY

MILLDALE, CONN. 06467

TELEPHONE: 203-628-9661

FOOD, DRUG, & COSMETIC PRODUCT LIST

1. Alcohol
2. Alcoholic Beverages:
 - a. Gin
 - b. Vodka
 - c. Whiskey (straight & blended)
 - d. Cordials & Liqueurs
 - e. Bourbon
 - f. Prepared Cocktails
 - g. Rum
 - h. Tequila
 - i. Beer (all types)
 - j. Wines (all types)
3. Allyc Diglycol Carbonate
4. Ammonia Methanol Solution
5. Antiseptics - Antibiotics
6. Aluminum Hydroxide Gel
7. Arginine Solution
8. Benzene Hex
9. Benzalkonium Solutions
10. Benzocaine
11. Butisol Sodium
12. Blood Plasma
13. Bovine Serums
14. Beverages - Non-Alcoholic:
 - a. Soft drinks - Carbonated, non-carbonated
 - b. Fruit Juices
 - c. Vegetable Juices
 - d. Potable Water
 - e. Coffee
 - f. Tea
 - g. Vitamin enriched Fruit Drinks
 - h. Cider
15. Caprolactam
16. Cough Syrups
17. Citric Acid Solutions
18. Coca Cola Syrup
19. Expectorants
20. Elixirs
21. Extracts (All Types)
22. Ether

SUBSIDIARIES: REPUBLIC SEITZ and F.R. HORMANN

Continued -

FOOD, DRUG, & COSMETIC PRODUCT LIST

23. Flavors (all types); Fragrances (all types)
24. Formaldehyde Antiseptic
25. Gelatin
26. Glycerine
27. Gum Solutions, Vegetable
28. Hydrogen Peroxide
29. Ipecac Syrup
30. Insulin Solutions
31. Lactic Acid
32. Lotions
33. Liquid Iron
34. Mistogen Solution
35. Mouthwashes
36. Milk of Magnesia
37. Methylcellulose Ophth. Solution
38. Mineral Oil
39. Oleic Acid
40. Oxalic Acid
41. Paregoric
42. Phenol
43. Phosphoric Acid
44. Phenobarbital
45. Penicillin