Asbestos

CONSUMER PRODUCT SAFETY COMMISSION

16 CFR Chapter II

Consumer Products Containing Asbestos; Advance Notice of Proposed Rulemaking

AGENCY: Consumer Product Safety Commission.

ACTION: Advance Notice of Proposed Rulemaking.

SUMMARY: The Consumer Product Safety Commission is concerned that consumer exposure to asbestos from consumer products may present an unreasonable risk of injury and that some consumer products containing asbestos may present a substantial product hazard. CPSC will begin its formal investigation of the use of asbestos in consumer products by publishing this notice soliciting general information on the use of asbestos in consumer products. In addition to soliciting information on the use of asbestos in consumer products, this notice describes CPSC's proposed regulatory approach to asbestos in consumer products and solicits public comment on the approach. The Commission will consider the comments during the development of any proposed regulation or other remedial action to protect consumers.

DATE: Comments and information should be submitted on or before December 17, 1979. Those comments received after this date will be considered only to the extent practicable.

ADDRESS: Comments and information should be sent, preferably in five copies, to Office of the Secretary, Consumer Product Safety Commission, Washington, D.C. 20207, and should refer to "Asbestos." Received comments and other relevant information may be examined in copies obtained from Office of the Secretary, 1111 18th Street, N.W., 3rd Floor, Washington, D.C. 20207, during business hours Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Francine Shacter, Program Manager, Office of Program Management, Consumer Product Safety Commission, Washington, D.C. 20207, telephone (301) 492-6557. For information concerning financial compensation for public participation in this investigation, contact Catherine Bolger, Office of the Secretary at the above address, telephone (202) 254-6241.

SUPPLEMENTARY INFORMATION:

Background

Asbestos is a general term for any of several naturally occurring fibrous minerals composed of silica, oxygen, hydrogen, and other elements such as sodium, calcium, iron, or magnesium. There are six basic varieties of asbestos minerals that are found in fiber form: chrysotile (the most common variety, and that found in about 95% of asbestos-containing products in the Unites States), amosite, crocidolite, actinolite asbestos, tremolite asbestos, and anthophyllite asbestos.

The high tensile strength, flexibility and heat chemical resistance of asbestos makes it adaptable to a large number of uses. Although precise figures on the number of asbestos-containing products are not available, the Commission estimates that hundreds of different types of consumer products contain asbestos in some form. Many consumer products, for example, contain asbestos paper as a thermal or electrical insulating barrier. Asbestos is also commonly used in household building products to provide strength and stability.

Health Risks Related to Asbestos Exposure

CPSC is concerned that the presence of asbestos in consumer products, under certain conditions, may present a risk of cancer and respiratory disease. On the basis of current information, it appears that consumer products containing asbestos fibers can pose a health hazard if the asbestos fibers are released into the air, and therefore are available for inhalation. The hazard may be undetectable in the ordinary use of asbestos-containing products, since some asbestos fibers may be visible only by means of optical or electron microscopy.

A large body of scientific evidence suggests that all major types of asbestos are carcinogenic. Animal data and human epidemiologic studies support this conclusion.

Extensive epidemiologic studies of health effects conducted in occupational settings provide the largest body of information on asbestos-related diseases. Since the early 1960's there has been increasing evidence as well of asbestos-related diseases in populations not occupationally exposed to asbestos. Epidemiologic studies have demonstrated increased incidence of asbestos-related diseases, including lung cancer and mesothelioma (a cancer of the linings of the pleura and peritoneum) among nonoccupationally exposed populations, including individuals with only brief or intermitten "bystander" exposures.

Autopsy studies of lung tissues of residents in urban areas in many parts of the world indicate that the general population is being exposed to asbestos from the general environment, and that once inhaled, asbestos fibers can remain lodged in the lungs for life.

Health Risks Related to Consumer Products Containing Asbestos

Asbestos released from consumer products poses several unique problems in the household. First, young children and infants are subject to exposure. This is of particular concern to the Commission. Second, unlike asbestos released into the general environment, where fibers may be disbursed by air currents, asbestos fibers released from consumer products into the living space can remain in a confined space over long periods of time and may be subject to repeated cycles of settling and resuspension. The presence of asbestos fibers can thus pose an ongoing inhalation risk in the household. Third, unlike the workplace where engineering control systems and protective clothing are available to minimize worker exposure to asbestos, household members have little or no protection from exposure to asbestos fibers released from consumer products.

Previous Commission Action Concerning Asbestos in Consumer Products

The Commission has issued rules declaring consumer patching compounds and artificial emberizing materials containing respirable asbestos as banned hazardous products under the Consumer Product Safety Act (CPSA). (16 CFR 1304 and 1305, 42 FR 63354, December 15, 1977.) These actions were taken on the basis of Commission findings that the use of these products in the household would subject consumers to increased exposure to asbestos fibers. The Commission determined that this increased exposure, combined in many cases with exposure to asbestos from other sources, would result in an increased risk of cancer. In view of the seriousness of this illness and the cumulative effects of asbestos exposure, the Commission determined that continued use of these products in the household presented an unreasonable risk of unjury and that no feasible consumer product safety standard under the CPSA could adequately protect the public from the risk.

The Commission has also been concerned with the use of asbestos in hair dryers in light of information initially indicating that a significant



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proportion of some 50 to 60 million hair dryers in consumers' hands or in the chain of distribution contained asbestos. As a result of negotiations between the Commission's staff and firms which share approximately 90% of the consumer hair dryer market, the firms have agreed to cease production and distribution of hair dryers containing asbestos and to offer consumers some form of repair, replacement, or refund.

The Commission's concern with hair dryers containing asbestos has been broadened to include hair dryers used by consumers in commercial hair dressing establishments.

Tests of hair dryers containing asbestos have been performed for CPSC by the National Institute of Occupational Safety and Health (NIOSH) of the Department of Health, Education, and Welfare to aid in the determination of emission of asbestos fiber from the hair dryers. The results of these tests are currently being analyzed.

Information Gathering on Consumer Products Containing Asbestos

In order to determine the scope of the potential problem posed by consumer products containing asbestos, CPSC commissioned a study to determine what other categories of consumer products contain asbestos. As a result of a report by a Commission contractor, *Review of Asbestos Use in Consumer Prducts*, A. T. Kearney, Inc., Management Consultants (April, 1976) (Kearney report) and through examination of other published sources, the Commission has developed information that indicates the presence of asbestos in a number of consumer products. Using the Kearney report and other available published sources, the Commission's staff has grouped the products according to the general form in which the asbestos exists in the product. This list of consumer products or categories of products containing asbestos is set forth in Appendix A to this notice. Also included in Appendix A is a list of consumer products that have been the subject of consumer inquiries or that are otherwise alleged to contain asbestos. The Commission requests interested persons to provide information on whether the lists in Appendix A are complete and accurate. Any information received in response to this notice will help the Commission determine the scope of the problem and identify specific products on which it may need to focus its attention.

To obtain additional specific information on the use of asbestos in consumer products in the near future, the Commission intends to issue general and special orders under the authority of section 27(b)(1) of the CPSA (15 U.S.C. 2076(b)(1)) to require manufacturers (including importers) and private labelers of certain categories of consumer products to submit information on the use of asbestos in specified consumer products which the Commission believes merit initial attention. The Commission intends to select consumer products containing asbestos for priority attention in this investigation, based on the following criteria: (1) the number of units of the product estimated to be in use by consumers, (2) the form and location of the asbestos in the product; (3) the frequency, duration, manner, and location in the consumer's environment of product use, including such factors as the expected useful life of the product and the presence of heat and/or moisture and the likelihood of abrasion during use or forseeable misuse; (4) the likely availability and feasibility of substitutes for asbestos in the product; (5) the relative ease of data collection and analysis by the Commission and the reporting burden on industry; and (6) the degree of potential overlap of CPSC reporting requirements with the information gathering efforts of other regulatory agencies, particularly the Environmental Protection Agency.

The information which the Commission may require in the general or special orders includes for the products covered: specific product indentification information; the function performed by the abestos in the product; a description of the asbestos; the location of the asbestos in the product; available test or other data concerning asbestos fiber emission; information on the promotion, marketing, and use patterns of the product; and information on possible substitutes for the asbestos in the product.

The Commission plans to begin selecting products for priority attention and may issue general or special orders to require the submission of information on those products during the time it is receiving comments on this notice.

The Commission intends to coordinate the gathering of information under the general and special orders with the information gathering activities of the Environmental Protection Agency (EPA), which is proposing, in an Advance Notice of Proposed Rulemaking appearing elsewhere in this issue of the Federal Register, a comprehensive regulatory program under the Toxic Substances Control Act to address asbestos exposure. Coordination between CPSC and EPA will include the sharing of information, including where permitted by applicable law, the sharing of confidential business information. Through this coordination, EPA and CPSC will endeavor to reduce reporting burdens on industry and improve the efficiency and effectiveness of regulatory efforts. The Commission solicits comments and information from interested persons on the issues raised by the sharing of confidential business information, particularly concerning ways to reconcile the agencies' need for information with industry's legitimate interest in preserving the confidentiality of trade secrets and other confidential commerical or financial information.

Regulatory Approach

General Policy

The previous regulatory action the Commission has taken concerning asbestos in consumer products has been based on several principles. First, the Commission concluded that exposure to any respirable asbestos fibers from consumer products presents a health risk because there has not been demonstrated to be a threshold or no-effect level below which exposure to asbestos fibers would be considered safe. Further, exposure to asbestos from consumer products is generally in addition to environmental exposure from a number of other sources, and therefore must be viewed as part of a cumulative burden of asbestos exposure.

Second, the seriousness of the injury associated with asbestos exposure—the potential increased risk of cancer—was given considerable weight by the Commission in the decision-making process to determine whether the consumer products presented an unreasonable risk. As it is required to do by statute, the Commission carefully considered the effect of regulatory action on the utility, cost, and availability of the product and concluded that in the absence of compelling evidence of unacceptable social or economic costs associated with removal of asbestos from the product, regulatory action was warranted.

The Commission recognizes that before it may take regulatory action, the Commission must make the necessary statutory findings, based on substantial evidence; and that it must observe the requisite procedures designed to ensure due process in taking regulatory action.

As a general approach, however, the Commission proposes initially to seek the elimination of all non-essential uses of asbestos in consumer products from which asbestos fibers are released during reasonably foreseeable conditions of use, including misuse. The Commission proposes to take regulatory action concerning non-essential uses of

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asbestos on the basis of a determination of the fact of asbestos fiber emission, rather than a quantitative assessment. In determining whether a use of asbestos is essential, the Commission will generally consider a number of factors, including but not limited to: the function performed by the asbestos in the product, the benefit derived from the use of asbestos in the product; and the availability and cost of substitutes for the asbestos; and the safety of such substitutes.

The Commission proposes to use this regulatory approach in addressing the problem of asbestos exposure from consumer products and solicits comments from interested persons on whether this is an appropriate approach under the regulatory authority of the Commission.

By proposing this regulatory approach, the Commission does not intend to preclude possible action to address essential uses of asbestos in consumer products from which asbestos fibers are released. The initial focus, however, will be on non-essential uses of asbestos.

Statutory Tools for the Regulation of Asbestos in Consumer Products

CPSC administers two statutes under which it is empowered to regulate asbestos in consumer products. Under the Consumer Product Safety Act (CPSA, 15 U.S.C. 2051, et seq.), CPSC has the general responsibility to protect the public from unreasonable risks of injury, illness or death associated with consumer products. Under the Federal Hazardous Substances Act (FHSA, 15 U.S.C. 1261, et seq.), CPSC may regulate hazards presented by the presence or use of toxic and other hazardous substances in the household.

Possible regulatory actions under the CPSA to address asbestos exposure include:

(1) consumer product safety standards consisting of requirements as to performance, composition, contents, design, construction, finish or packaging of the product;

(2) consumer product safety standards requiring that the product be marked with or accompanied by clear and adequate warnings or instructions, including requirements specifying the form of warnings or instructions;

(3) rules declaring the product a banned hazardous product;

(4) orders, following the opportunity for an evidentiary hearing, determining that a product presents a substantial product hazard; and requiring the manufacturer, distributor, or retailer to notify the public and specific purchasers of the product of the nature of the hazard and requiring the repair or replacement of the product or refund of the purchase price; or

(5) rules requiring manufacturers of the product to give notification to consumers of performance and technical data, including warnings or instructions for safe use, at the point of sale. Such performance and technical data could include the results of testing which, under certain circumstances, the Commission may require manufacturers to perform.

At any time, even when one of the above proceedings is pending, the Commission may file a civil action in a United States district court against an "imminently hazardous" consumer product or the manufacturer, distributor or retailer of such product for seizure or injunctive relief.

The FHSA prescribes requirements for cautionary labeling of household products which are or contain "hazardous (including "toxic") substances", as those terms are defined in the Act or as the Commission may define them by regulation. The Commission also may prescribe by regulation reasonable variations or additional label requirements for hazardous substances. If the Commission finds that notwithstanding cautionary labeling, the degree or nature of the hazard presented by the substance is such that the public health can be adequately protected only by excluding such substance from the channels of commerce, it may, by regulation, declare the substance a banned hazardous substance. Banned hazardous substances are subject to automatic repurchase under the Act. Where a serious threat to public health exists, the Commission, pending completion of a rulemaking proceeding to declare a substance a banned hazardous substance, may, by notice published in the Federal Register, declare a substance an "imminent hazard", and thus temporarily ban such substance from the channels of commerce.

The CPSA empowers the Commission to address unreasonable risks of injury associated with consumer products or components of such products. The inclusion of components was intended to enable the Commission "to regulate just a part of a consumer product if only such regulation were warranted." *ASG Industries, Inc.* v. *Consumer Product Safety Commission*, 593, F. 2d 1323 (D.C. Cir. 1979). This recognition that products may pose a risk of injury because of the presence of a particular component suggests that the Commission could address in a single regulatory action the use of asbestos as a component in a number of different consumer products that share similar or related uses of asbestos, provided the Commission makes the requisite statutory findings under the CPSA. (See section 9(c), 15 U.S.C. 2058(c).)

Regulatory action to address asbestos in consumer products could include regulation of asbestos as a component in any consumer product where exposure to asbestos fibers occurs; regulation of a group or category of consumer products which contain asbestos in a form that results in exposure to asbestos fibers; or regulation of individual products that contain asbestos on a case-by-case basis if exposure to asbestos fibers occurs. The Commission has used the latter approach in the past. From the standpoint of effective protection of the public health and efficient expenditure of limited resources, however, the Commission believes that in certain circumstances a broader, more "generic" approach to regulation may be preferable. Where appropriate, the Commission will consider such an approach to the regulation of asbestos in consumer products. In situations where a particular type of product is found to present a hazard, the Commission will pursue appropriate regulatory action as to that product type.

Issues Highlighted For Comment

The Commission solicits comments and information from interested persons on all the issues raised in this notice as well as any other matter relevant to the investigation and possible regulation of consumer products containing asbestos. The Commission is particularly interested in receiving comments and information on the issues and questions set forth below.

1. Is the Commission's list of consumer products containing asbestos (or possibly containing asbestos) contained in Appendix A accurate and complete? Are there products or categories of products on the list that are (a) no longer manufactured or (b) currently manufactured but no longer contain asbestos? Are there products or categories of products currently manufactured that contain asbestos but that are not on the list?

2. How can agencies (such as CPSC and EPA) proceed to obtain information necessary to make informed regulatory decisions concerning asbestos while considering industry's, and the general public's interest in avoiding unnecessary reporting burdens? How can the agencies' needs for information be met while protecting industry's legitimate interest in preserving the confidentiality of trade secrets and other confidential commercial and financial information.

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3. The Commission's proposed regulatory approach will initially seek the elimination of all non-essential uses of asbestos in consumer products from which asbestos fibers are released during reasonably foreseeable conditions or duration of use, including misuse. Is this a sound approach? Is it an appropriate one under the statutes the Commission administers? Under what circumstances should the Commission consider action to address essential uses of asbestos in consumer products from which fibers are released?

4. How should the Commission determine what constitutes an essential use of asbestos in consumer products? Are the Commission's proposed criteria appropriate? How much weight should be given to cost, availability, utility or safety of substitutes for asbestos in consumer products? How should the societal benefit derived from a product, or the use of asbestos in a product, be assessed?

5. The Commission's proposed position concerning the type of evidence necessary for regulatory action is that it can take action on the basis of a determination that asbestos fibers are being emitted from a product. Is this approach appropriate? In what situations should quantitative measures of asbestos fiber emission be attempted? If so, who should conduct the tests to determine the quantitative levels being emitted from particular products? Should the Commission attempt to define or develop criteria to determine whether asbestos fibers are "respirable"?

6. Where appropriate the Commission intends to consider regulation of asbestos as a component of one or more groups or classes of consumer products (i.e. "generically"), rather than on a product-by-product basis. Under what circumstances would this be an appropriate approach? What are the advantages or disadvantages of such an approach?

7. The Commission does not intend to employ quantitative estimates of cancer risks posed by exposure to asbestos fibers in making regulatory decisions concerning consumer products containing asbestos. Is this an appropriate approach to the regulation of the risks posed to the public from exposure to asbestos in consumer products?

8. The Commission has limited information concerning qualitative or quantitative studies of asbestos fiber emission from particular consumer products. The Commission is interested in receiving any such information in order to help identify products which should receive priority attention in this investigation.

9. The Commission has listed a number of criteria which it intends to apply in selecting consumer products containing asbestos for priority attention in its investigation. Are these criteria appropriate? Are there additional criteria that should be applied?

Public Participation

During the investigation and possible regulation of consumer products containing asbestos, the Commission hopes to receive the views of public interest, consumer, industry and other interested groups on all relevant issues. In order to facilitate this participation, the Commission, in addition to soliciting written comments and information through this notice, may conduct one or more public hearings or meetings. In order to ensure representation of viewpoints from groups and individuals who might otherwise not have the means to furnish comments in response to this notice, the Commission will make available financial compensation for reasonable expenses incurred in furnishing comments. Funding will also be available for participation in any hearings, meetings, or other future Commission proceedings connected to this investigation. Eligibility for financial compensation will be determined in accordance with the Commission's Interim Policies and Procedures concerning Financial Compensation of Participants in Informal Rulemaking Proceedings (16 CFR Part 1050). Individuals or groups who wish to apply for financial compensation should promptly contact the Office of the Secretary at the above address, and indicate their interest in receiving the necessary application forms and other information.

(Consumer Product Safety Act, 15 U.S.C. 2051 et. seq., Federal Hazardous Substances Act, 15 U.S.C. 1261, et. seq.)

Dated: October 12, 1979.

Sadye E. Dunn,

Secretary, Consumer Product Safety Commission.

Appendix A.—Consumer Products Containing Asbestos[1]

Asbestos Paper Products

Acoustical ceiling tile
Lamp sockets
Burner mats for gas stoves
Roofing felts (outer layers)
Pipe and boiler covering
Vinly sheet flooring backing
Radiator top insulation
Appliance heating shielding (paper)
  Slow cookers
  Hair dryers
Paper sheets for heat insulation
Millboard
  TV and other electronic switch plates
  Electric switch boxes
  Metal reinforced gaskets (for air-cooled engines)
  Electrical washers
  Linings for ovens, kilns, safes, safety boxes, incinerators
  Millboard sheet
    Wall protection behind heat-generating products
    Floor protection under wood and coal stoves
  Soldering and welding blocks
Iron rests
Appliance heat shielding (millboard)
  Toasters
  Rotisserie broilers
Fireproof wallboard
Metal-clad fire doors and partitions
Tent grommets
Stove pipe rings

Cloth and Woven Products

Flexible air conductor for heating, cooling and ventilating equipment
Appliance wiring
  Barbecue fire starters
  Broilers
  Curling irons
  Electric blankets
  Hair dryers
  Heating pads
  Ranges
  Slow cookers
  Toasters
  Irons
  Deep fat fryers
  Electric fry pans
Awnings
Candlesticks
Catalytic Heater Mantles
Cigarette Lighter wicks
Cord
  Seals for high temperature gaskets
  Valve steam packings
  Insulation for glass handling tools
  Reinforcing for braided wall stem hose
Theater curtains
Felt
  Reinforcements in plastics
  Gaskets
  Reinforcement in asbestos tapes
  Secondary insulation in high temperature wire and cable
  Asphalt impregnated roofing felts
  Piano and organ felts
Heating pads (element insulation)
Ironing board pads and covers
Lamp and lantern mantles
Pipe and boiler covering
Pot holders and oven mitts
Flame resistant garments
  Gloves
  Hats
  Helmets
  Hoods
  Mittens

[1] Source: *Review of Asbestos Use in Consumer Products*, A. T. Kearny Inc., Management Consultants (April, 1978), and other published sources. Final jurisdictional determinations for these products have not been made. The inclusion of a product on this list does not mean that all brands or models of that product contain asbestos.

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Overgaiters
Sleeves
Suits
Umbrellas
Aprons
Arm protectors
Flame-resistant blankets
Boots
Caps
Smokers' bibs
Stoves—Coal and wood burning
Tape for pipe insulation
Braid and rope for packing
Motion picture screens
Tent grommets

Asbestos Cement Products

Water, sewer and septic drain field pipe
Airduct pipe
Sheet products
Roofing clapboard
Siding
Shingles
Interior walls
Boiler and furnace baffles
Bulk sheeting
Welding shields
Baking sheets
Blackboards
Laboratory table tops
Linings for vaults, safes, humidifiers and filing cabinets

Viscous Matrix Products

Adhesives (glues and epoxies)
Air duct cement for asbestos-cement air duct
Buffing and polishing compounds
Caulks and putties
Floor tile cement and mastic
Auto body filler
Flashing cement
Furnace cement
Glazing compound for ceramics
Pipe and boiler coverings
Roof and driveway coatings
Stains and varnishes
Automotive metal deadener
Automotive undercoating
Refrigerant cements
Automotive muffler repair compounds

Products Subject to Inadvertent Asbestos Contamination

Driveway gravel
Fertilizer and lawn care products
Potting materials (vermiculite)
Talcs for noncosmetic or food use applications

Miscellaneous Products

Acoustical and thermal insulation material, sprayed
Ammunition shell wadding
Automotive mufflers
Barbecue firebed materials in gas barbecue grills
Boat Hull Repair Kits
Flower pots
Friction Materials
Clutch plates
Brake linings
Potters' kilns (home hobby)
Pottery clay
Powder (asbestos)
Bulk fiber
Reinforcement in molded plastics and rubber
Automotive radiator sealant
Vinyl asbestos floor tiles
Abrasive wheels
Aerial distress flares
Molded plastics and phenolic laminates
Paint
Textured paint
Cement, drywall and plaster patching compounds
Artificial gas fireplace emberizing material
Phonograph records

Consumer Products Possibly Containing Asbestos [2]

Appliances

Air conditioners
Dishwashers
Hand-held mixers
Portable electric heaters
Popcorn poppers
Refrigerators
Vacuum cleaners
Waffle Makers

Miscellaneous Products

Carpet padding
Fire places
Instant papier mache
Light fixtures on railroad passenger cars
Welding masks
File cabinets

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 763

[OTS 61005; FRL 1332-4A]

Commercial and Industrial Use of Asbestos Fibers; Advance Notice of Proposed Rulemaking

AGENCY: Office of Toxic Substances, Environmental Protection.

AGENCY: (EPA, or the Agency).

ACTION: Advance Notice of Proposed Rulemaking (ANPRM) Under the Toxic Substances Control Act (TSCA).

SUMMARY: EPA is concerned that many sources of human exposure to asbestos may present an unreasonable health risk. Exposure to asbestos fibers has been shown to contribute to increased risk of lung damage (asbestosis) and cancer of several anatomic sites in humans.

Asbestos is a generic name for several naturally occurring mineral fibers. Since the beginning of the century, approximately 30 million tons of asbestos fibers have been used in the United States to produce thousands of commercial and industrial products. The inventory of asbestos products is growing since products introduced into commerce represent about 750,000 tons of asbestos per year. Some fibers used in these products are inevitably released as a result of fiber processing, product manufacturing, distribution in commerce, product use, and disposal. Much of this asbestos remains in the biosphere as a ubiquitous pollutant because of the fibers' mobility and resistance to chemical and physical decomposition. Humans may be exposed to these fibers from the aforementioned direct and indirect sources.

Certain exposures to asbestos are controlled under various Federal and State authorities. However, because of limited mandates (i.e., focused on specific populations or exposure sources), technical difficulties (e.g., available fiber measurement techniques), and other analytical constraints, these authorities are not able to deal with the total asbestos problem. As a result, many population segments remain exposed to, and inadequately protected from both direct and diffuse sources of asbestos.

The comprehensive manadate of the TSCA enables EPA to reduce health risk from sources which are difficult to control through media-specific or source-specific regulation authorized under other Federal authorities. Under TSCA, EPA is currently investigating the cumulative effects of exposure to asbestos throughout its life cycle in commercial and industrial products (i.e., from mining and milling through processing, product manufacturing, use and disposal). Our preliminary studies indicate substantial continuing exposure of millions of people to the ever growing inventory of asbestos sources. As a result of this study, the Agency expects to promulgate rules to prevent and reduce any unreasonable risks that are identified.

EPA anticipates that any rules it develops to control unreasonable asbestos risk will evolve chiefly from a combination of the following regulatory approaches. Under the first approach, the Agency might promulgate rules that prohibit the processing, manufacture, and use of certain asbestos-containing products or product categories. Under the second approach, the Agency might limit the annual amount of asbestos imported and produced in the United States, or it might limit the amount of asbestos processed in the United States. Both approaches would aim at reducing the consumption of asbestos for nonessential purposes. Both reflect the Agency's belief that many asbestos products have economically available substitutes. All rules would be designed to minimize adverse impacts on industry

[2] Source: Consumer inquiries and other sources not verified by the Commission.

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by providing sufficient time to adopt substitutes and eliminate asbestos processing equipment.

Control of asbestos already installed or in service will generally require action different from the ones above. Many existing sources are difficult to identify and control. However, as an initial step, the Agency is investigating the development of a rule to require public school surveys to determine whether asbestos hazards are present due to deteriorating insulation. The Agency will also consider requiring appropriate corrective measures where hazards are found. An Advance Notice of Proposed Rulemaking has been published in the Federal Register describing this action (44 FR 54676, September 20, 1979). Other existing sources that the Agency may control in the future include public buildings where asbestos was used as an insulation or decorative material and merchant ships where asbestos is widely used as insulation.

In support of the investigation of asbestos products and uses, EPA expects to issue a reporting rule under section 8(a) of TSCA to gather economic and exposure information. The Agency also anticipates issuing a rule under section 8(d) of TSCA to require the submittal of unpublished health and safety studies relating to asbestos. Finally, EPA will consider the need for supplementary regulation under other Federal laws administered by EPA and other Federal agencies.

EPA solicits comments on this Notice. These comments will be considered during development of any proposed regulations.

DATE: All comments must be received by the Record Clerk by December 17, 1979.

ADDRESS: Mrs. Joni T. Repasch, Record Clerk, Office of Toxic Substances (TS-793), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

Comments should include the docket number OTS-61005. Comments received on this Notice will be available for viewing and copying from 9 a.m. to 4:30 p.m., Monday through Friday, excluding holidays, in Room 447 East Tower, EPA Headquarters, 401 M Street, Washington, D.C.

FOR FURTHER INFORMATION CONTACT: Industry Assistance Office, Office of Toxic Substances (TS-799), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, Phone: 800-424-9065, (In Washington, D.C., call 554-1404).

SUPPLEMENTARY INFORMATION:

The Problem

EPA has conducted a preliminary evaluation of asbestos related health effects and exposure situations. On the basis of this evaluation, EPA believes that many sources of exposure to asbestos may present an unreasonable human health risk because of serious adverse health effects and large numbers of people subject to exposure. Studies of exposed populations have shown that asbestosis, a progressive deterioration of lung function, and various types of cancer are associated with asbestos exposure, even at low concentrations or after short exposure periods.[1,2]

Asbestos is a generic name for a variety of naturally occurring fibrous mineral silicates (chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite). For many years asbestos has provided reliable protection against damage from heat, fire, and rot and has served many other valuable functions. The high tensile strength, flexibility, and heat and chemical resistance of asbestos fibers make them adaptable to a large number of uses. Although accurate figures on the number of asbestos-containing products are not available, some 2,000 to 3,000 discrete products are estimated to contain the material.

Asbestos use has been increasing steadily. Since the beginning of this century, approximately 30 million tons of asbestos have been used in the United States with the total increasing annually by about 750,000 tons (average annual use over the past ten years).[3]

Much of this asbestos is still in the biosphere because asbestos fibers are highly indestructible and quite mobile, moving from land and water to air through normal physical processes. Exposure sources include mines, mills, processing facilities, products, disposal sites and the ambient environment. With long latency periods between exposure and evidence of disease, we probably have not yet felt the total impact of asbestos-related disease incidence due to the growing presence of asbestos in the biosphere.

Approximately twenty Federal regulations under various laws regulate human and environmental exposure to asbestos.[4] Despite these regulations, however, large segments of the population continue to be exposed to asbestos. Consistent with their legislative mandates, existing regulations are limited to controlling asbestos in specific media (e.g., air, water, food), source categories (e.g., process emissions, waste piles), or population segments (e.g., workers). These regulations are not designed to control the full range of exposure situations. For example, there are over 100 million motor vehicles in the United States today. Since most vehicles use a set of asbestos-containing brake linings every 3 or 4 years, a considerable amount of asbestos-containing material is released to the environment during use and maintenance. Yet, not Federal regulation addresses the problem of asbestos build-up in the biosphere from this and many other sources.

Even within their regulatory purviews, Federal and state authorities are constrained in establishing adequate asbestos exposure controls. Because of their limited focus, these authorities only weigh partial risks (e.g., occupational exposure) against total societal benefits of asbestos-containing products and uses. The limitations of available fiber measurment techniques also constrain the range of feasible control options.

Approach to Regulation of Asbestos Under TSCA

The Agency believes that TSCA provides an effective means of controlling the proliferation of asbestos use in the United States and of reducing the health risks associated with the existing accumulation of asbestos in the environment. Under the compreshensive jurisdiction of TSCA, EPA has authority to weigh overall risks presented by the entire asbestos life cycle, from mining to final disposal. For example, EPA can control any chemical manufacturing, processing, distribution in commerce, use, or disposal activity, or any combination of these activities found to pose an unreasonable risk to health and the environment. EPA is planning to use TSCA's unique authority in this rulemaking to assess whether exposure to asbestos throughout its life cycle presents an unreasonable risk to human health. Where the presence of risk is determined, EPA will consider developing regulations under TSCA and other laws which the Agency administers. The development of

[1] Bogoviski, P. et al. (eds.). *The Biological Effects of Asbestos*. Proceedings of working conference held at the International Agency for Research on Cancer, Lyon, France: 3-6 October 1972, pages 155-162.

[2] Levin, R.J. (ed.). *Asbestos: An Information Resource*. DHEW Publication No. (NIN) 78-1681. May 1978, page 24.

[3] U.S. Environmental Protection Agency. *Chemical Market Input/Output Analysis of Selected Chemical Substances to Assess Sources of Environmental Contamination: Task III Asbestos*. Washington, D.C., 1978.

[4] U.S. Environmental Protection Agency. *Federal Register Citations Pertaining to the Regulation of Asbestos*. In-House Report, April 1979.

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regulations under TSCA and other authorities will be integrated to promote adequate health protection and minimize impacts on industry.

The Agency anticipates that most asbestos regulatory action will be taken under section 6(a) of TSCA, although section 5(a) might also be used where appropriate. Among other things, section 6(a) enables the Agency to restrict chemical processing, limit quantities that can be used, require appropriate labels, and mandate recordkeeping. Section 5(a) enables the Agency to require that manufacturers submit premanufacturing notification for significant new uses of a chemical.

Before promulgating a rule under section 6(a) of TSCA, the Administrator must determine that the substance in question presents an unreasonable risk to human health and the environment. The Agency can then develop rules to reduce or prevent the risk using the least burdensome requirements.

To accomplish this end in the case of asbestos, TSCA requires that the following areas be examined and documented:

(1) The seriousness of health effects associated with identified levels and durations of human exposure to asbestos;

(2) The benefits of various uses of asbestos and the availability of practical substitutes for these uses; and

(3) The reasonably ascertainable economic impacts of the rules on the national economy, small business, technological innovation, the environment, and public health.

The following sections discuss the method the Agency plans to use in carrying out these studies.

Risk Assessment

EPA is examining the total risk to human health from exposures to asbestos throughout the material's commercial life cycle (i.e., from mining and milling, through fabrication into products, to final use and ultimate disposal). The Agency is preparing an assessment of occupational and general population risks from both new and existing exposure sources. The investigation will be based principally on available data concerning asbestos-related health effects and potential exposure situations. EPA believes that it already has much data to support rulemaking under TSCA. However, to insure that all relevant information is considered, the Agency expects to propose a reporting rule under section 8(d) of TSCA. The rule will require submission to the Agency of any unpublished health and safety studies on asbestos.

In examining asbestos health effects, EPA is relying heavily on the extensive epidemiological studies conducted primarily in occupational settings. The results of animal studies are being used to supplement epidemiolgic data. For example, data from animal studies are being used to assess the biological activity of fibers which differ in size, shape, or chemical composition. These studies, when combined with known and potential exposure situations, will show the seriousness of health effects associated with identified routes, levels, and durations of human exposure to asbestos. The linear nonthreshold model is being used to provide quantitative estimates of cancer risk in accordance with EPA Interim Guidelines for Carcinogen Risk Assessment (41 FR 21402, May 25, 1976) and the Interagency Regulatory Liaison Group's Guidance (44 FR 39858–39879, July 6, 1979) on the subject.

EPA particularly requests comment with respect to the analysis it intends to perform on the health risks of asbestos. Ideally, EPA would examine health risks presented throughout the commercial life cycle of asbestos associated with particular end products then analyze the substitutes for each of the end use products to determine if the risks presented are unreasonable. Asbestos, however, is contained in so many products that it would be an impracticable, if not impossible, task to analyze the risks associated with each of the 2,000–3,000 uses, except for certain distinct products which may present unique exposure situations. Furthermore, it is not clear that it is technically possible to trace the life cycle risks for a particular product, since at the early stages, such as mining and milling, asbestos is undifferentiated and may be used in any number of different end products.

Accordingly, EPA intends to analyze as a whole all the health risks associated with asbestos. The Agency's risk assessment will document major risks that occur within stages of the asbestos life cycle. Individual situations will be described that illustrate these stages. For certain situations, such as in some of the well studied asbestos workplaces, more precise estimates will be possible than in other situations. This type of risk assessment would show that risks occur generally from exposure to asbestos, rather than from any particular product because of the characteristics of that product.

EPA requests comment on the general validity of its risk assessment approach, and solicits suggestions for alternatives to remedy the problems associated with a product-by-product approach.

Some technical problems remain in making comparisons among the concentrations of asbestos that were measured by different sampling and analytical techniques. In particular, a comparison of work place levels measured with the light microscope to ambient urban levels measured with the more sensitive electron microscope would be helpful in estimating some components of asbestos risk. The Agency welcomes comments on the appropriate conversion factors to use when making comparisons of both types of data, and on the implications for estimating risk.

Socioeconomic and Substitute Assessment

If EPA's life cycle risk assessment concludes that substantial human health risk is associated with general exposure to asbestos, then the Agency will examine the situation for the presence of "unreasonable" risk on the basis of the availability of reasonable substitutes. Unreasonable risk may be analyzed on the basis of the present or future availability of reasonable substitutes on a product or category specific basis, or may be analyzed by a more general, representative socioeconomic evaluation of proposed asbestos controls. The Agency's choice of economic analysis will depend on the choice of regulatory options, which are explained below in the section titled "Regulatory Control Options." A combination of the two types of economic analyses is also being considered. The Agency will develop least burdensome controls to reduce these risks after consideration of probable socioeconomic impacts.

The analysis of substitutes will address the following issues: (1) the basic need for the product in the marketplace; (2) the performance capabilities of substitutes; (3) the present and anticipated availability of substitutes; (4) the cost of substitutes; and (5) the health and environmental hazards associated with substitutes. The evaluation of hazards from substitutes generally will be limited to a qualitative analysis. The economic analysis will include an economic profile of the industry and an examination of the potential impacts of any proposed controls. Key factors to be examined include: (1) industry structure and concentration; (2) pricing; (3) production volume; (4) current employment; (5) energy consumption; (6) income distribution; (7) growth, profitability, and capital availability; and (8) market segmentation.

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Regulatory Control Options

The Agency is considering the following regulatory approaches to prevent and reduce unreasonable health risks at all stages of the asbestos life cycle.

First, the Agency might promulgate prohibitions on the manufacture, processing, and use of specific asbestos-containing products or product categories. The products or categories to be controlled would be determined on the basis of a category or product specific analysis of socioeconomic factors. Possible controls might include banning the manufacture and use of asbestos-containing textiles, roofing paper, or brake linings.

One disadvantage of this approach stems from asbestos fiber demand which reportedly exceeds current supplies. If this situation persists, fibers orginally destined for a banned product might be transferred to increase production of unrestricted products. Such a transfer could offset the reduction in asbestos use anticipated under the product use ban. The situation would only change after a large number of asbestos-containing products and uses were banned.

Another disadvantage of the specific product restriction approach is that it could generate voluminous exemption requests. Although well defined exemption criteria could minimize the number of requests, the demand on EPA resources could be significant. Despite these drawbacks, this option should still enable EPA to reduce and prevent many exposures associated with nonessential asbestos products.

Under the second approach, EPA could promulgate regulations setting limits on the amount of asbestos mined in the United States and imported annually. Alternatively, the regulation could restrict the amount of asbestos processed annually in the United States. The net risk reduction and prevention from either alternative should be about the same. In selecting between them, EPA would consider such factors as economic impacts and resources necessary for enforcement. Either alternative within this approach would be supported by a general or representative socioeconomic analysis of the proposed asbestos controls.

In essence, the second approach would establish a ceiling on the amount of asbestos used in the United States. This ceiling could be reduced gradually until it reaches a level which the Agency's socioeconomic analysis indicates is necessary for essential asbestos-containing products and uses. This approach would allow industry to determine which products and uses to eliminate. EPA would still be assured of reduction in asbestos use and environmental build-up. The disadvantage of this approach is that there is no guarantee of eliminating products which present a particularly high risk. For example, if a product with easily released fibers commands a relatively high price, it might remain in the marketplace much longer than if it was regulated specifically.

Under the third approach, the Agency might select a combination of the preceding approaches to take maximum advantage of their desirable features. The key differences between the two approaches are (1) whether EPA or industry determines which products are eliminated, and (2) whether specific products or overall quantity of asbestos fibers are regulated. EPA may prefer to allow industry to determine which products to eliminate and how to allocate available asbestos fibers. In order to provide this opportunity, the Agency may select production/import limits as the primary control option. Depending upon the outcome of socioeconomic and substitute analyses, EPA might reduce the initially established ceiling limit annually by 5 to 20 percent until an appropriate level is reached where all remaining fiber use is essential. In conjunction with the production/import rule, EPA might also ban a few selected products to ensure speedy elimination of items or uses presenting particularly significant risk. Possible candidates for ban include millboard, commercial paper, and certain friction products.

All regulations developed by the Agency under any of these approaches will be designed to minimize adverse impacts on the asbestos industry and asbestos users. To this end, the development of implementation schedules will allow for reasonable transitions to substitutes and orderly phase-out of asbestos processing equipment.

Phased Approach of Analysis

The widespread use of asbestos makes evaluating substitutes, assessing economic impact, and examining other factors necessary to support regulation a difficult and time consuming process. Therefore, the Agency is conducting regulatory assessments in a systematic manner on all asbestos product categories.

The following product categories account for the major portion of asbestos used in 1978: Paper products including certain roofing and flooring products, other flooring products, asbestos-cement pipe, asbestos-cement sheet, friction products, plastics, packing and gaskets, coatings and compounds, insulation and textiles.[5] Of these, EPA has selected asbestos paper products and automobile and light truck brake linings as initial candidates for analysis and possible rulemaking.

According to various estimates of asbestos use in 1978, paper products account for approximately 30-40 percent of the total asbestos consumption. Much of asbestos paper is used to make asbestos roofing products. Because of its versatility, however, asbestos paper has a wide variety of applications. These include asbestos paper, tubes, and tapes for electrical and thermal insulation; diaphragms for brine electrolysis cells; corrugated paper sheets and blocks for use in appliances and other applications; underlayments for sheet vinyl flooring; gaskets; beverage filters; molten glass handling equipment; and general heat/fire-proofing components. Many of these uses have reasonable substitutes. For example, roofing felt can also be made with organic and fiberglass fibers at less cost than asbestos fibers. The performance of these materials is very similar to asbestos roofing felt.

Friction products currently account for about 14 percent of total asbestos consumption. Brake linings constitute the largest single product within the friction product subcategory. Human exposure to asbestos emissions from brake linings occurs not only during processing (i.e., production of the brake linings), but also during use and servicing of brakes. Several automobile manufacturers are already using nonasbestos disc brake pads with plans to ultimately convert totally to nonasbestos pads. Nonasbestos shoes for drum brakes have been more difficult to develop but some manufacturers believe that they are near to developing a commercially acceptable substitute.

Existing Sources of Asbestos Exposure

Although risk associated with newly processed asbestos may be substantial, the continuing aggregate risk associated with existing and past asbestos use may be equally and possibly more significant. Unfortunately, reducing risks from the latter group is more complicated than reducing new risks because of difficulties in identifying all the related exposure sources, the lack of feasible control options for many sources, and the large costs associated with removing and replacing existing

[5] Clifton, R. A., *Asbestos-Mineral Commodity Profiles*, U.S. Department of the Interior, Washington, D.C., July 1979.

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products. Some existing asbestos products, however, are amenable to evaluation and control. For example, asbestos has been widely used for insulation in schools and other buildings. In some of these buildings the insulation has deteriorated and fibers are entering the air in the buildings. EPA is currently investigating whether to require surveys of public schools for asbestos and appropriate control actions wherever exposure problems are identified. This action was announced in another ANPRM published in the Federal Register on September 20, 1979 (44 FR 54676).

Other existing uses of asbestos will be examined where practicable during subsequent stages of the asbestos regulatory investigation. Possible candidates include all public buildings and merchant ships.

Information Gathering under Section 8(a) of TSCA

EPA is developing a section 8(a) rule to help gather information needed for this investigation. The information will be used to determine appropriate regulatory action under TSCA as well as under other laws administered by EPA and other Federal activities. EPA invites comments on the need for such a rule; who should be subject to, or exempt from reporting; what information should be gathered under this authority; and how the section 8(a) rule should be designed.

Under section 8(a), EPA could require maintenance of records and reporting by persons who mine or mill asbestos, process asbestos (including making asbestos-containing products), and import asbestos or asbestos-containing products. Insofar as the information is known to, or reasonably ascertainable by those persons, the Agency could require reporting of information about any aspect of asbestos manufacture and processing. Possible reporting topics include the composition of asbestos-containing products, the uses of each product, all existing data concerning environmental and health effects, the number of individuals exposed in workplaces, and the duration and extent of these exposures, and the manner and method of asbestos waste or product disposal.

The section 8(a) rule could be designed in several ways depending, in part, on the control strategy selected by the Agency. A single rule might require one-time reporting of information, while a series of rules might require phased reporting by industry segments. Either type of rule could establish different reporting requirements for the various groups or persons (i.e., millers, processors, importers of asbestos) subject to the rule. A rule might require immediate submission of some information while retaining the authority to request other specified information by letter at a later date. The possible scope of a section 8(a) rule is discussed in more detail in the issue section below.

Citizens Petition

Under section 21 of TSCA, a citizen may petition EPA to initiate a proceeding for the issuance, amendment, or repeal of a rule under various provisions of the Act. On June 21, 1979, the Agency received such a petition requesting that a proceeding be initiated to restrict future use of asbestos-cement pipe in drinking water supply systems. This request is compatible with the Agency's plans, as announced in this Notice, to initiate a comprehensive investigation of commercial and industrial asbestos uses including asbestos-cement pipe.

The Administrator's response to the petition notes that the evaluation of health effects information on risks resulting from the ingestion of asbestos is not yet complete. It also states that the Agency has just begun gathering exposure and socioeconomic information on asbestos-cement products. Thus, it is not EPA's intent to include asbestos-cement pipe as a candidate for initial rulemaking. Nonetheless, because the Agency has initiated investigations to support a decision on whether to regulate asbestos-cement pipe under TSCA, the Administrator granted the petition.

Issues

Several issues must be resolved during this asbestos rulemaking process. EPA invites comments on the following issues and any others which might be relevant.

1. *Health Effects of Substitutes.* To adequately assess substitutes for asbestos, EPA requests health, environmental and socioeconomic information on substitute materials. This information has two purposes: (1) it will allow an informed analysis of the health effects of the substitutes for comparison with the known hazards of asbestos, and (2) it will enable a balanced consideration of the environmental, economic, and social impact of any action taken by the Agency.

We are particularly concerned with materials, such as fibrous glass, that might have physical dimensions and characteristics very similar to those of asbestos fibers, but differ only in chemical composition. EPA is aware of relevant research, especially the studies by Stanton [6, 7, 8] Pott [8, 10] and others.[11, 12, 13, 14, 15] These studies suggest that the length and width of fibers or the ratio of the width to the length may be more important than their chemical composition in determining carcinogenicity. More specifically, current research findings suggest that fibers with diameters less than or equal to 1.5 microns and lengths between 5 and 60 microns are likely to have greater fibrotic and carcinogenic potency than fibers falling outside these ranges. Consequently, we plan to adopt a policy that nonasbestos fibers with physical dimensions within these ranges are not appropriate substitutes unless appropriate testing indicates otherwise. Fibrous or other substitutes which do not present major health risks would be determined to be suitable. EPA solicits comments on this approach.

2. *Scope of a Section 8(a) Rule.* To develop regulations for asbestos sources, the Agency must gather and

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[6] Stanton, M. F. Layard M. "The carcinogenicity of fibrous minerals." Proceedings of the workshop on asbestos: definitions and measurements methods held at NBS, Gaithersburg, Maryland, July 18–20, 1977. National Bureau of Standards Special Publication 506, November 1978.

[7] Stanton, M. F. "Some etiological considerations of fiber carcinogenesis." In: Bogovski P. Gibson J. C. Timbrell V. Wagner J. C. eds. *Biological effects of asbestos.* Lyon: International Agency for Research on Cancer (IARC Scientific Publication number 8), 1973: pages 289–294.

[8] Stanton, M. F., Layard M. Tegeris A. Miller E. May M. Kent E. "Carcinogenicity of fibrous glass: pleural response in the rat in relation to fiber dimension." J. Nat. Can. Inst. 1977; 58(3).

[9] Pott F. Huth F. Friedricks K. H. "Results of animal carcinogenesis studies often applications regarding human exposure." In: NIOSH symposium on occupational exposure to fibrous glass. University of Maryland, 1974. National Institute for Occupational Safety and Health, 1977 (DHEW publication number (NIOSH) 76-151).

[10] Pott, F. Huth F. Friedricks K. H. "Tumorse der matte nnach i.p. injektion von gemahl-enem chrysotil und benzo (a) pyren.".

[11] Wagner J. C., Berry G. "Mesotheliomas in rats following innoculation with asbestos and other materials." B. J. Can 1969; 23: pages 567–81.

[12] Wagner J. C., Berry G., Timbrell V. "Mesotheliomas in rats often innoculated with asbestos and other materials." B. J. Can 1973; 28: pages 173–85.

[13] Wagner J. C., Berry G. Timbrell V. "Mesotheliomas in rats following the intrapleural innoculation of asbestos." In: Shapiro H. A., ed. *Pneumoconosis.* Proceedings of the international conference. Cape Town: Oxford University Press, 1970: pages 216–19.

[14] Wagner J. C., Berry G. Skidmore J. W. "Studies of the carcinogenic effects of fiber glass of different diameters following intrapleural innoculation in experimental animals." In: NIOSH symposium on occupational exposure to fibrous glass, University of Maryland, 1974. National Institute for Occupational Safety and Health, 1977. (DHEW publication number (NIOSH) 76-151).

[15] Smith, W. E., Hubert D. D. "The intrapleural route as a means for estimating carcinogenicity." In: Karbe E., Park J. F., eds. *Experimental lung cancer. Carcinogenesis and Bioassays.* New York: Springer-Verlag, 1974: pages 92–101.

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analyze a variety of information concerning asbestos. Various EPA program offices have already accumulated a considerable amount of data through previous studies. These data will be used as much as possible. However, the Agency anticipates that it will need additional data for regulatory decision-making. The additional data includes recent production, market, substitute, exposure and health effects information. The Agency hopes to acquire some of this information through submittals by industry and other knowledgeable people in response to this ANPRM. EPA has also specifically contracted for studies to review the state-of-the-art knowledge and to develop new environmental and economic data.

Insofar as these nonregulatory avenues (e.g., this ANPRM, contractor studies, and other informal information requests) do not provide, or are not likely to provide sufficient information, the Agency will promulgate a section 8(a) rule. The issue at hand regards the appropriate scope of the section 8(a) rule. The Agency would like to minimize reporting burdens on industry. To this end, the promulgation of such a rule and its potential content will be influenced by responses to this ANPRM and informal Agency requests and by the need for confidential business information or other data not likely to be provided on a voluntary basis.

Relationship With Other Federal Laws

As previously noted, a number of rules for controlling exposure to asbestos have been promulgated under several Federal laws.

The Occupational Safety and Health Administration (OSHA) and the mining Safety and Health Administration (MSHA) regulate workplace exposures, the Department of Transportation (DOT) regulates the commercial transport of asbestos, the Food and Drug Administration (FDA) regulates the use of asbestos by the food and drug industries, and the Consumer Product Safety Commission (CPSC) regulates consumer products containing asbestos. EPA has established National Emission Standards for Hazardous Air Pollutants (NESHAP) for several asbestos sources under the Clean Air Act [16], 42 U.S.C. 7401 *et seq.*, and is considering additional asbestos air emission standards. EPA is developing effluent guidelines regulating wastewater discharges of asbestos and a water quality criterion under the Federal Water Pollution Control Act, 33 U.S.C. 1251, *et seq.*, as amended in 1972 and 1977. EPA is also considering additional regulation of asbestos in drinking water under the Safe Drinking Water Act, 42 U.S.C. 300f *et seq.* The Agency may also develop regulations for asbestos waste management under Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 to 6931.

Under section 9 of TSCA, 15 U.S.C. 2608, the Administrator will consider whether risks from asbestos exposure could be reduced to a sufficient extent by actions taken by other agencies under other Federal laws. The Administrator will also consider whether rules promulgated under other EPA authorities could address the asbestos problems more effectively. To maximize the effectiveness of this proposed rule, EPA is coordinating with several agencies both directly and through the Interagency Regulatory Liaison Group (IRLG). These agencies include the Food and Drug Administration, Consumer Product Safety Commission, Department of Agriculture, Mine Safety and Health Administration, and Occupational Safety and Health Administration.

Public Participation

The Agency plans to conduct this investigation and rulemaking in compliance with the public participation section of the *FR Notice* entitled "EPA: Improving Regulation; Final Report Implementing E.O. 12044" (44 FR 30988, May 29, 1979). Before and after publication of any notice of proposed or final rulemaking in the Federal Register, EPA will identify and meet with public interest groups, industry, regional, State, and local governments and other interested groups to obtain their views on regulatory needs, the Agency's approach, and technical issues. Information exchange will be facilitated through various public participation mechanisms, including public meetings and public hearings at appropriate locations around the country.

A financial compensation program for public participation will be available to applicants meeting eligibility criteria. The funds may be used for the cost incurred in commenting on proposed rules after publication. A Notice of Availability of Grant Funds will be published in the Federal Register announcing the financial compensation program, eligibility criteria, level of funding, and the procedures for applying for reimbursement.

Public Record

EPA has established a public record for this rulemaking (docket number OTS 61005) which, along with a complete index, is available for inspection in the OTS Reading Room from 9:00 a.m. to 4:30 p.m. on working days (Room 477, East Tower, 401 M Street, S.W., Washington, D.C., 20460). This record includes basic information considered by the Agency in developing this ANPRM. The Agency will supplement the record with additional information as it is received. Materials for incorporation in the public record include:

1. This Notice.
2. All comments on this Advance Notice and the proposed rule.
3. All relevant support documents and studies (including economic analyses performed for the purpose of defining small business as prescribed by section 8(a)(3)).
4. Records of all communications between EPA personnel and persons outside the Agency pertaining to the development of this rule. (This does not include any inter- or intra-agency memoranda unless specifically noted in the index of the rulemaking record).
5. Minutes, summaries, or transcripts of any public meetings held to develop this rule.

EPA will identify the completed rulemaking record on or before the date of promulgation of the regulation, as prescribed by section 19(a)(3) of TSCA, and will accept additional material, for inclusion in the record at any time between this Notice and such designation. The final rule will also permit persons to point out any errors or omissions in the record.

Questions and Information Needs

To assist the Agency in gathering information for regulatory decision-making, EPA invites comments on, and responses to, the questions and information requests that are listed here or are discussed elsewhere in this Notice.*

1. The Agency solicits suggestions relating to the definition of several key terms identified below as well as other terms members of the public consider important to regulatory decision-making.

[16] These standards included certain work practice requirements which the United States Supreme Court in *Adamo v. Train*, 98 St. Ct. 566 (1978), found to be invalid. The Clean Air Act was amended by Congress in 1977 and 1978 to provide EPA with the authority to prescribe and enforce work practice standards. These asbestos standards are being promulgated again by EPA.

* CSPC, in an Advance Notice of Proposed Rulemaking appearing elsewhere in this issue of the Federal Register, announces a program to investigate the use of asbestos in consumer products. As part of this investigation, CPSC will solicit information through a variety of voluntary and regulatory means. To reduce potential reporting burdens on industry, CPSC will take into account response to EPA's questions when tailoring the Commission's requests for information on the use of asbestos in consumer products.

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To the extent possible the Agency would like our definitions to conform to generally accepted usage. The terms to be defined include: (1) asbestos, (2) encapsulated fibers, (3) locked-fibers, (4) easily released fibers, and (5) friable materials.

2. The Agency is requesting all unpublished data or estimates relating to human exposure and to human health risks from exposure to asbestos during mining, manufacturing, processing, use, and disposal for all asbestos products including the following product categories:

(a) Asbestos paper, including roofing and floor underlayments;
(b) Friction products;
(c) Asbestos cement sheet;
(d) Asbestos cement pipe;
(e) Textiles;
(f) Flooring;
(g) Gaskets and packings;
(h) Paints, coatings and sealants;
(i) Asbestos-reinforced plastics.

The information submittals should include data on exposure of both workers and people near mining, manufacturing and processing facilities. Where data might be extensive, covering several years, many work stations or many sampling points, summaries which include appropriate statistical analysis would be sufficient. Data of interest include present and future estimates of:

(a) The number of people exposed;
(b) The routes, duration and frequency of exposure;
(c) The intensity of exposure (fiber concentration preferred);
(d) Fiber size distributions;
(e) Fiber types;
(f) Relative and attributable risk estimates for all cancers of specific organs and nonneoplastic respiratory diseases;
(g) Variations in risk by age, sex, smoking status, duration and intensity of exposure, fiber types, and time from onset of exposure; and
(h) Technical controls currently used to monitor and control exposures to asbestos at the plant site.

3. Based on preliminary information, a list of asbestos-containing commercial and industrial product categories is presented in the Appendix to this Notice. The extent of human exposure to asbestos fibers from these products depends on many factors including the releasability of the fibers, the duration of the exposures, and the size of the population exposed throughout various parts of the life cycle of asbestos in the product. Products which release asbestos fibers during normal use, installation, maintenance, removal, or plausible mishandling are of particular concern during the use segment of the life cycle. Categories containing products which EPA believes may fall into this classification are noted with an asterisk in the Appendix. Identification of these products was based not upon testing but upon generally available information. The Agency is interested in determining the necessity of using asbestos in these products. The Agency requests the following information on these products and other asbestos-containing products.

(a) Do these products contain asbestos?

(b) What is the purpose of asbestos in the product; what is the asbestos content by percent of total composition and weight; and what is the asbestos fiber type, size and shape?

(c) What are the figures for annual production and sales of the product, and the annual amounts of asbestos used in each product?

(d) What is the value of the product and the cost of the asbestos used in that product?

(e) What exposures are expected during the manufacture of the asbestos-containing product; and what are the expected exposures associated with each use? (Rate of fiber release, frequency, duration, population exposed, and conditions of use.)

(f) What point source and non-point source discharges of asbestos to water are associated with the processing of asbestos fibers, manufacture and use of asbestos-containing products (e.g., quantity, concentration)?

(g) What amounts and types of asbestos-containing wastes are generated in connecton with manufacture of the product; and what methods and sites of storage, treatment and disposal are currently used for those wastes?

(h) What are the product life, and expected removal and disposal techniques for each use? What type of disposal sites are used?

4. The Agency is requesting the following information regarding the industry structure.

(a) What are the current trends in the use of asbestos and asbestos-containing products?

(b) Is the market stable?

(c) What size and type of industry is most likely to be affected by regulation of asbestos under TSCA?

(d) What effects on industry structure would be anticipated from regulation under TSCA?

(e) What effects on employment can be anticipated from asbestos regulation under TSCA?

5. The Agency is requesting the following information regarding substitutes for asbestos and asbestos-containing products. Manufacturers of substitutes are particularly encouraged to submit information.

(a) What substitute substances are presently available or currently under development for asbestos in paper products (including roofing felts and floor underlayments), friction products, flooring, plastics, cement, sealants and other commercial and industrial products?

(b) What substitute products are presently available or currently under development for asbestos-containing products in the categories described above?

(c) What are the performance characteristics of these substitute substances and products as compared to asbestos-containing products?

(d) What unpublished data are available regarding human exposure to, and health effects of substitutes for asbestos-containing products?

(e) What is the price differential between asbestos or asbestos-containing products and their substitutes?

(f) How long will it take to convert to production and use of alternatives? Please comment on a product-specific or product category-specific basis.

(g) To what extent can present makers of asbestos-containing products change to substitute materials? Can this conversion be accomplished using existing asbestos production facilities? What will the cost of the changeover be in terms of capital and operating costs?

(h) If existing facilities cannot be used once substitutes replace asbestos, will new facilities be built by existing asbestos processing companies, by other companies, or by some combination of these?

(i) What effects might regulation of asbestos have on industrial innovation and introduction of new products?

6. What categories or individual products and uses containing asbestos do not present a health hazard to users? Why?

7. What asbestos-containing individual products or categories might be considered essential because of significant benefits and/or lack of reasonable substitutes? What are the specific benefits and costs and how should they be weighed?

8. Is the state-of-the-art for asbestos identification and quantification (phase contrast or electron microscopy) analytically adequate and economically feasible to establish numerical standards for fiber release and exposure resulting from the production of asbestos-containing products, their use and disposal? Can airborne fiber levels

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be measured at 10^2 fibers/m^3, 10^3 fibers/m^3, 10^4 fibers/m^3, or 10^5 fibers/m^3, and can waterborne fiber levels be measured at 10^3 fibers/liter, 10^4 fibers/liter, 10^5 fibers/liter, 10^6 fibers/liter or 10^7 fibers/liter? Should the level be expressed as total fibers or as fibers greater than a specified length or aspect ratio? Are other parameters more appropriate (e.g., total mass release, etc.)?

9. What unpublished data are available regarding ambient levels or asbestos in air and water and asbestos exposure from various noncommercial asbestos sources such as drinking water supplies and naturally occurring asbestiform rock?

10. EPA and CPSC intend to share information received in support of their respective asbestos regulatory investigations. However, in view of potential statutory conflict regarding treatment of confidential business information, how should the agencies treat data for which a company claims confidentiality?

Authority: Secs. 5 and 6 of the Toxic Substances Control Act (TSCA) (90 stat. 2003; 15 U.S.C. 2601).

Dated: October 10, 1979.

Douglas M. Costle,
Administrator.

APPENDIX

A. *Automotive Repair*

1. Mufflers *
2. Brake linings *
3. Clutch facings *
4. Custom auto body filler *
5. Metal deadener *

B. *Household Materials*

1. Appliance wiring *
2. Counter surfaces *
3. Electrical cord *
4. Filler for shoe soles *
5. Floor tile *
6. Hair dryers *
7. Heat protective mats *
8. Ironingboard pads and covers *
9. Lamp mantles *
10. Lamp sockets *
11. Potters' kilns *
12. Slow cookers *
13. Toasters *

C. *Safety Equipment*

1. Aprons *
2. Arm protectors *
3. Blankets *
4. Boots *
5. Caps *
6. Clothing *
7. Curtains *
8. Draperies *
9. Gloves *
10. Hats *
11. Helmets *
12. Hoods *
13. Mittens *
14. Overgaiters *
15. Sleeves *
16. Suits *
17. Umbrellas *

D. *Recreational Activity*

1. Aerial distress flares *
2. Ammunition shell wadding *
3. Catalytic heater mantles *
4. Tent gromets *
5. TV sets and projector equipment *

E. *Home Building Repairs*

1. Latex paints *
2. Texture paints *

F. *Commercial Applications*

1. Aluminized cloth *
2. Bags *
3. Bearings *
4. Belting *
5. Blocks *
6. Boards *
7. Braid *
8. Buffing and polishing compounds *
9. Cloth *
10. Cord *
11. Diaphragms *
12. Drier felt *
13. Drilling fluids *
14. Fabrics *
15. Felt *
16. Filtering materials *
17. Metallic cloth *
18. Millboard *
19. Paper *
20. Pipe and boiler covers *
21. Pottery clay *
22. Plywood patch *
23. Sheet flooring *
24. Table tops *
25. Tape *
26. Textiles *
27. Welding electrodes *

G. *Asbestos Cement Products*

1. A/C air duct *
2. A/C pipe *
3. A/C sheet *
4. Baking sheets *
5. Cement boards *
6. Clapboard *
7. Roofing *
8. Shingles *
9. Siding *
10. Tile *

H. *Molded Products*

1. Gun grips
2. Filler and reinforcement in plastic *
3. Pond liners
4. Phenolic laminates
5. Resins
6. Rheostat backing

I. *Roofing Materials*

1. Aluminum roof coating
2. Roof patch
3. Roofing felts *
4. Roof preservative

J. *Sealants and Mastics for Consumer and Commercial Use*

1. A/C pipe joint sealant
2. Adhesives
3. Caulking compounds and putty *
4. Furnance cement
5. Glazing compound
6. Radiator sealant
7. Varnish *

* Indicates that products within the category potentially contain easily releasable fibers.

Note.—Not all of the products in each identified category are believed to contain asbestos.

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