CONSUMER PRODUCT SAFETY COMMISSION

CONSUMER PATCHING COMPOUNDS AND ARTIFICIAL EMBERIZING MATERIALS (EMBERS AND ASH) CONTAINING RESPIRABLE FREE-FORM ASBESTOS

Banned Hazardous Products
[ 6355-01 ]

Title 15—Commercial Practices
CHAPTER 5—CONSUMER PRODUCT SAFETY COMMISSION
SUBCHAPTER B—CONSUMER PRODUCT SAFETY ACT REGULATIONS
PART 1145—REGULATION OF PRODUCTS SUBJECT TO OTHER ACTS UNDER THE CONSUMER PRODUCT SAFETY ACT

Consumer Patching Compounds and Artificial Embellishing Materials (Embers and Ash) Containing Respirable Free-Form Asbestos

AGENCY: Consumer Product Safety Commission.

ACTION: Final rules.

SUMMARY: The Commission issues final rules determining that it is in the public interest to regulate consumer patching compounds and artificial embellishing materials (embers and ash) containing respirable, free-form asbestos, for the purpose of addressing the risk of cancer associated with inhalation of asbestos fibers, under the Consumer Product Safety Act (CPSA) rather than under the Federal Hazardous Substances Act (FHSA). According to the CPSA, a risk of injury that could be eliminated or reduced to a sufficient extent under the FHSA may not be regulated under the CPSA, unless the Commission finds by rule that it is in the public interest to do so.

EFFECTIVE DATES: For consumer patching compounds containing respirable, free-form asbestos, this rule becomes effective on January 15, 1978. For artificial embellishing materials (embers and ash) containing respirable, free-form asbestos, this rule becomes effective December 15, 1977.

FOR FURTHER INFORMATION CONTACT:

SUPPLEMENTARY INFORMATION:

Background

On July 29, 1977, by publication of a notice in the Federal Register (42 FR 47992), the Commission proposed a rule under section 30(d) of the Consumer Product Safety Act (CPSA) (15 U.S.C. 2075(d)) as amended, that it is in the public interest to regulate consumer patching compounds and artificial embellishing materials (embers and ash) containing respirable free-form asbestos under the CPSA rather than under the Federal Hazardous Substances Act (FHSA). (15 U.S.C. 1261-1274). Section 30(d) reads:

"Whenever, in the public interest, the Consumer Product Safety Commission determines that it is necessary to prevent the sale, distribution or use of a hazardous product, it may by rule prescribe such requirements for the safety of the product as it deems necessary."

Also on July 29, 1977, the Commission proposed in the Federal Register (42 FR 38793) a regulation under the CPSA that would declare certain banned hazardous products, consumer patching compounds and artificial embellishing materials containing respirable free-form asbestos under the CPSA rather than the FHSA.

The Commission’s reasons in the proposed section 30(d) rule for proceeding under the CPSA rather than the FHSA are:

1. The rulemaking proceedings for regulation of these products under the FHSA are likely to be lengthy and resource-consuming.

2. Rulemaking proceedings under the FHSA are governed by provisions of the Administrative Procedure Act (5 U.S.C. 553), and are informal and adversarial in nature and thus it would be more likely that participation of the public, including consumers, would be forthcoming in rulemaking proceedings under the CPSA.

3. The Commission believes that civil penalties may be imposed under the CPSA against persons who knowingly violate the CPSA may provide additional incentive for compliance under the CPSA. The FHSA does not provide the remedy of civil penalties.

Comments

No comments were received by the Commission which deal directly with the proposed section 30(d) rule. In comments on the proposed ban, however, several persons in the marketing chain commented approximately on the decision to regulate under the CPSA because the CPSA does not require repurchase of banned hazardous products by manufacturers, distributors, and retailers. On the other hand, several groups of consumer-oriented interests noted that they would have preferred regulation under FHSA because FHSA provides for such repurchase.

As noted in the proposed section 30(d) rule, the Commission is aware that regulation under CPSA would preclude mandated repurchase of banned hazardous products under the FHSA. The CPSA does not preclude voluntary arrangements for repurchase back up the distribution chain. Moreover, the advantages enumerated above, particularly, the advantage of having a final ban without regulation in force without having to first provide for lengthy adjudicatory proceedings, appears to the Commission to be more beneficial to consumer health and safety than the refunds consumers would have had under FHSA. In the matter of artificial embellishing materials, repurchase under the FHSA would have meant that many persons in the chain of distribution would have had to handle these materials rather than disposing of them quickly in order to avoid additional exposure. Accordingly, the Commission finds that for the health and safety of consumers, it is in the public interest to regulate consumer patching compounds and artificial embellishing materials containing respirable free-form asbestos under the CPSA rather than the FHSA. Therefore, pursuant to section 30(d) of the CPSA, Pub. L. 92-572, 96 Stat. 1921, as amended, 30 Stat. 510, 15 U.S.C. 2079(d), the Commission amends Title 15, Chapter II, Subchapter B, by adding new §§ 1145.4 and 1145.5.

§ 1145.4 Consumer patching compounds containing respirable free-form asbestos: risk of cancer associated with inhalation of asbestos fibers.

(a) The Commission finds that it is in the public interest to regulate the risk of cancer associated with inhalation of asbestos fibers from consumer patching compounds containing respirable free-form asbestos under the Consumer Product Safety Act (CPSA) rather than under the Federal Hazardous Substances Act (FHSA) because of the desirability of avoiding possibly lengthy resource-consuming, inefficient rulemaking proceedings under the FHSA and because of the availability of civil penalties under the CPSA for knowing noncompliance.

(b) Therefore, consumer patching compounds containing respirable free-form asbestos as defined under CPSA.

§ 1145.5 Embellishing materials (embers and ash) containing respirable free-form asbestos: risk of cancer associated with inhalation of asbestos fibers.

(a) The Commission finds that it is in the public interest to regulate the risk of cancer associated with inhalation of asbestos fibers from artificial embellishing materials (embers and ash) containing respirable free-form asbestos under the Consumer Product Safety Act (CPSA) rather than under the Federal Hazardous Substances Act (FHSA) because of the desirability of avoiding possibly lengthy resource-consuming, inefficient rulemaking proceedings under the FHSA. Because of the availability of civil penalties under the CPSA for knowing noncompliance.

(b) Therefore, artificial embellishing materials (embers and ash) containing respirable free-form asbestos are regulated under the CPSA.

Effective dates: Section 1145.4 becomes effective January 13, 1978. Section 1145.5 becomes effective December 15, 1977.


SHELDON L. BURTSCH, Assistant Secretary, Consumer Product Safety Commission.

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[ 6355-01 ]

CONSUMER PATCHING COMPOLDS AND ARTIFICIAL EMBELLISHING MATERIALS (EMBERS AND ASH) CONTAINING RESPIRABLE FREE-FORM ASBESTOS

Establishment as banned Hazardous Products

AGENCY: Consumer Product Safety Commission.

FEDERAL REGISTER, VOL 42, NO. 24—THURSDAY, DECEMBER 15, 1977
On July 29, 1977, by publication of a notice in the Federal Register (42 FR 38782), the Commission also proposed a rule finding that it is in the public interest to regulate consumer patching compounds and artificial emulsifying materials containing respirable fine-form asbestos under the Consumer Product Safety Act (CPSA). The proposal, insofar as it is inconsistent with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Section 3(d) of the CPSA (15 U.S.C. 2079(d)(1)) requires the Commission to make such a finding by rule, before regulating a consumer product. The risk of injury which could be reduced or eliminated to a sufficient extent under the FIFRA. The Commission issues this rule elsewhere in the Federal Register. The data in these proposals are incorporated here, by reference.

Section 3(a)(2) of the CPSA requires that, in addition to providing an opportunity for making written submissions, the Commission provide interested persons with an opportunity to make oral presentations of data, views or arguments relating to proposals to ban. Oral presentations on the ban were heard by the Commission on August 15, 1977. Views on the ban are discussed below under Comments on Proposal.

In order to have sufficient time to review all the responses to the proposal and late responses, on October 4, 1977 (42 FR 53970), the Commission extended until November 29, 1977, the time in which it must either publish a consumer product safety rule or withdraw the proposals to ban. This date was further extended until December 12, 1977, by notice published in the Federal Register on November 29, 1977 (42 FR 60952).

COMMENTS ON PROPOSAL

Oral views on the proposal were presented by 7 persons on August 15, 1977 with 3 representing consumer groups and 4 representing manufacturers. In addition, the Commission received 30 written comments which represented 17 manufacturers, 1 distributor, 4 federal agencies; 3 public interest groups; 2 concerned citizens; a supplier of raw materials; and a chemical research and development firm. Among the 10 commenters who expressed support for the ban were 5 manufacturers of patching compounds, 3 federal agencies and 2 public interest groups.

The significant issues raised by the oral and written comments are set forth below.

A. Scope and definition. The proposal states that consumer patching compounds are those that are primarily produced and distributed for sale to or for the personal use, consumption or enjoyment of consumers in or about a household or residence, a school, in recreation or otherwise. The Commission considered in the proposal that patching compounds for application in these consumer environments are either distributed for sale to consumers or are for the personal use or enjoyment of consumers. Moreover, information available to the Commission indicated that most patching compounds for commercial/industrial use are distributed in such ways that consumers have access to these products (51) either by purchase or for their use and enjoyment. Therefore, the Commission concluded that these products are subject to the Commission's jurisdiction unless such patching compounds are labeled as, marketed, and sold solely for industrial use.

B. Patching compounds as consumer products. (a) Several commenters requested a clearer definition of consumer patching compound and a manufacturer questioned the boundaries of the term "consumer product" for the "Anacona" case. The Commission stated that the definition of consumer patching compounds in the ban has been improperly broadened to include jurisdiction over building materials. He believes that the definition of consumer product regulation only of articles used within the home, not the structure of the home itself or the integral parts of the structure. He states that since consumers have access to the building materials containing respirable fine-form asbestos through marketing channels, these products can be considered consumer products under the CPSA. Thus, he believes that it was not improper for the Commission to focus on the recent case. (U.S.A. v. Anaconda Co., et al.), Misc. No. 77-0024, (D.D.C.) June 15, 1977 which indicates that the presence of a product in a consumer environment can help decide whether that product is a consumer product under the CPSA. Therefore, the commenter urges the Commission to interpret the "consumer product" for the "Anacona" case in order to "avoid the creation of an unnecessary conflict * * * within the regulation itself."

In response to this comment, the Commission notes that the paragraph which cites the case in question is not in the proposed regulation but in that part of the preamble which explains the regulation. In the commission's view, the "Anacona" case is not in reliance on the case as a basis for regulation but to show how the case interprets the definition of consumer product at section 3(a)(1) of the CPSA which reads.

The term "consumer product means any article, or component part thereof, produced or distributed (1) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (2) for the personal use, consumption or enjoyment of a consumer in or around a permanent, or temporary household or residence, a school, in recreation, or otherwise.

Although courts have not yet reached a definitive decision on the coverage of the term "consumer product," the Commission believes that the statute and legislative history, by themselves, afford sufficient authority for Commission action. The Commission never defined for product and its use in consumer environments. It appears to the Commission that the definition of consumer patching compound in the proposal falls within section 3(a)(1)
RULES AND REGULATIONS

of the CPSA and that the "Anaconda" case underscores the definition.

In order to minimize any confusion, a new subsection (c) has been added to § 1304.4. Scope and Application, to show the range of products covered by the CPSA. That subsection reads:

(c) Only consumer products are subject to this regulation. Patching compounds which are intended for industrial use and which are sold directly to consumers, who may not apply the patching compounds, are not subject to the CPSA. If the sale or use of the product is facilitated, it is subject to the CPSA. Patches which are sold only for industrial use in non-consumer environments are not subject to the CPSA. In addition to those products which may be sold directly to consumers, the ban applies to patching compounds containing asbestos in a consumer product. The ban does not apply to patching compounds containing asbestos in a consumer product if such products are sold only for industrial use.

As stated herein, any patching compound containing asbestos in a consumer product that is subject to the CPSA should be considered to be consumer products if the sale or use of the product is facilitated, it is subject to the CPSA. Patches which are sold only for industrial use in non-consumer environments are not subject to the CPSA.

On the subject of regulation of these products by OSHA, the Commission notes that section 31 of the CPSA provides that the

Occupational Safety and Health Administration (OSHA) and, since the consumer product is not a component of a industrial use, may not apply the patching compound.

The Commission states that the term "silica" should not be used to substitute for asbestos. Asbestos is a generic term used to describe a number of naturally-occurring hydrated silicate minerals. However, the term "silica" is deleted from the definition of asbestos in § 1304.3(b) and § 1305.3(b) below and the term "hydrous silicates" is substituted therefor.

A public interest group takes issue with the definition of asbestos used in the proposal and urges the Commission to adopt a definition of asbestos in § 1304.3(b) of the proposed regulation.

The definition of asbestos used in the Commission's proposal is based on the definition used by the Bureau of Mines (197). The Commission states that the OSHA proposed definition could be revisited if a broader definition of asbestos is adopted.

As the commenter pointed out, several factors affect the acceptability of a definition of asbestos, including the definition used by the Bureau of Mines, the definition used by the National Bureau of Standards, and the definition used by the Commission. However, there was agreement that there should be a uniform definition of asbestos that is consistent with the definitions used by other agencies.

The definition which the commenter used in his proposal was not significantly different from the definition proposed by OSHA on October 19, 1975. It has not yet been finalized and is subject to change.

The definition used by OSHA on October 19, 1975, is based on the definition used by the Bureau of Mines, which is based on experimental findings associated with fiber morphology (size and shape). The Bureau of Mines also seeks to encourage uniformity in its definition. The definition which was used by the Commission is based on a scientific definition of asbestos. This definition has been adopted in final form by the agency.

The Commission has reviewed much of the available data on the characteristics of asbestos and its non-asbestos counterparts. From these data, it would appear that the use of the proposed OSHA definition could also include nonfibrous and particle-like substances, as well as fibers.

The Commission believes that the asbestos fiber concentration in the proposed regulation is limited to asbestos fibers. While the Commission is interested in arriving at an unambiguous uniform definition of asbestos, there is not...
yet enough evidence to base a definition of "asbestos" on fiber morphologies. Therefore, the Commission believes the proposed definition should not be changed in the final rule. As circumstances warrant, the definition could be amended at a later date.

3. Asbestos contamination in patching compounds. Several manufacturers expressed concern that all patching compounds would be subject to the ban rather than only those compounds to which asbestos has been intentionally added. They point out that asbestos is ubiquitous in the environment and that traces of asbestos may be present as a contaminant in other materials that are mined in areas of serpentine rock. One commenter suggests that the Commission consider permitting patching compounds which contain such naturally occurring contaminants. Other commenters suggest that a percentage of asbestos contamination by weight be permitted. The lowest percentage suggested by one comment was 0.1 percent because the Environmental Protection Agency (EPA) permits the presence of 1 percent asbestos by weight in spray-on asbestos insulation and fireproofing.

As noted in the proposal, the Commission is aware that asbestos is present in the environment. Further, the Commission does not wish to ban all consumer patching compounds in which traces of asbestos are present as a contaminant rather than as an intentionally added substance.

The suggestion that the Commission permit contamination of 1 percent by weight, however, appears to be inappropriate for consumer patching compounds because consumers would not be sufficiently protected. One percent by weight could mean a substantial number of small lightweight asbestos fibers, thus presenting a significant exposure to consumers of respirable free-form asbestos. Therefore, the Commission declines at this time to consider a percentage by weight to define permissible contamination.

Industry experts do not agree as to the amount of asbestos that might be present in products without deliberately added asbestos. Nor is there agreement on the reliability of the techniques used to measure low levels (below 1 percent) of asbestos by weight. The Commission believes, however, that the use of appropriate quality control measures and careful selection of raw materials can serve to minimize contamination from unintentionally added asbestos. Under the Commission's economic impact statement on file at the Office of the Secretary. In order to emphasize that only patching compounds with clearly unavoidable traces of asbestos contamination will be permitted, the Commission defines "intentionally-added asbestos" as § 136.4(i) of the rule below to mean addressing:

(1) added deliberately as an ingredient intended to impart specific characteristics; or
(2) contained in the final product as a result of knowingly using a raw material containing asbestos. Whenever a manufacturer finds that the finished product contains asbestos, the manufacturer will be considered as knowing or using a raw material containing asbestos, unless the manufacturer can prove that it took reasonable steps to reduce the asbestos to the maximum extent feasible.

Therefore, the ban applies only to consumer patching compounds containing intentionally-added respirable free-form asbestos and will not apply to products having unavoidable trace amounts.

4. Artificial embossing materials—exemption from ban. A manufacturer of electric artificial logs and electric fireplaces states that although the Commission proposals ban or restrict the use of artificial emboosing materials containing respirable, free-form asbestos, references in the media to artificial logs and artificial fireplaces reflect adversely on his business. Electric fireplaces which his products, which use an artificial ash bed of vermiculite, be exempted from the ban.

As the commenter noted, the Commission ban applies only to embossing materials containing free-form asbestos and not to any artificial logs or artificial fireplaces with which they may be used. Since the banned product is used with artificial logs, it is understandable that the ban would apply to different kinds of artificial logs. The Commission does not believe it would be appropriate to exempt from the ban all electric fireplaces with unidentified substances, or all artificial ash used in electric fireplaces, since some of these articles could include the banned product. However, in order to clarify the matter for consumers as producers, the Commission adds a statement to § 1365.3(d), the definition of embossing materials, which reads, "electric artificial logs and artificial ash beds used in electric fireplaces which do not contain respirable free-form asbestos are not included in this definition."

5. Effective date. Six commenters discussed the proposed effective date of the ban on consumer patching compounds which was 30 days after publication of the final rule. Five manufacturers suggested a date later than 30 days after publication. A public interest group suggested that the effective date be the date of publication of the final rule.

One commenter suggested that the Commission consider a series of effective dates for the ban on consumer patching compounds: 30 days for manufacturers, 60 for distributors and 90 days for retailers in order to clear inventories. Several commenters believe that a 30-day effective period would pose burden some to small manufacturers because of the inventory problem.

The matter of inventories was considered at the July 29, 1977 proposal to ban and further discussed at the public meeting of August 15, 1977. The concern of these involved to clear their existing inventories of consumer patching compounds containing respirable free-form asbestos was considered. Information available to the Commission indicates that manufacturers are now maintaining a relatively small inventory. Distributors report that they maintain a small inventory compared to their sales. Retailers have a much slower-moving inventory (§ 11).

The Commission considered the possible adverse economic effect of a 30-day effective date on inventories of manufacturers, distributors and retailers. The Commission also considered the possible adverse effects of exposing consumers to substantially increased sales of products by permitting the manufacture, distribution and sale to consumers of patching compounds until 180 days after publication of the ban. It appears to the Commission that early discontinuance of the manufacture of this product would be necessary in order to stop its continued proliferation in the market. On the other hand, substantial adverse economic impacts could result from the freezing of distributors' and retailers' inventories at an early effective date. The Commission concludes therefore that the ban should become effective 90 days after publication time in. For manufacturers, the effective date should be close to publication of the rule in order to stop the manufacture of this product for distributors and retailers, the effective date should be delayed to help ameliorate adverse economic impacts.

Therefore, the Commission declares below at § 1304.4, that consumer patching compounds containing respirable free-form asbestos which have been manufactured or initially introduced into commerce 30 or more days after publication of this rule are banned hazardous products. This means that a banned hazardous product, having been manufactured or initially introduced into commerce, retains its status as a banned hazardous product; thus, its subsequent sale, offering for sale, or distribution in commerce, is prohibited by any person in the chain of distribution.

In addition, the Commission declares that all other consumer patching compounds containing respirable free-form asbestos, no matter when manufactured or initially introduced into commerce, are banned hazardous products 180 or more days after publication of this rule. (As stated above in § 1304.4(g) of the rule, initial introduction into commerce of this product occurs when the product is physically shipped from a manufacturer's facility to a distributor, retailer, consumer or to another person for application in an consumer environment.)

In summary, 30 days after publication of this rule, manufacturers will be prohibited from manufacturing or shipping the product to distributors, retailers, consumers, or to others for application in consumer environments. Further, 180 days after publication of this rule, distributors and retailers will be prohibited from selling, offering for sale, distributing any of the described products, no matter when manufactured or initially introduced into commerce, to distributors, retailers, consumers, or to others for application in consumer environments. (2)

(2) The public interest group recommends that the effective date of the ban
on consumer patching compounds containing respirable free-form asbestos be the date of publication of the final rule, as is for artificial embrittlement materials.

The Commission proposed that the effective date of the ban on artificial embrittlement materials be the date of publication of the final rule, although the Administrative Procedure Act (5 U.S.C. 553) which governs publication of consumer product safety rules, provides that a rule should be published before its effective date unless the Commission finds good cause to provide otherwise. Unlike patching compounds, where exposure to asbestos fibers is most prevalent during mixing, sanding and cleanup operations, although the fibers may remain suspended for a considerable duration of time, asbestos fibers in embrittled materials can be resuspended as long as such materials are in the home because they are always in dry form and ready to be moved about by ordinary household air currents. It appeared to the Commission, therefore, that eliminating asbestos materials should be removed from commerce as quickly as possible and that there is good cause to have the ban effective on the date of publication. Persons who already had such materials in their homes, the Commission, on July 31, 1977, issued a press release on the impending ban which included a Consumer Alert advising consumers of the dangers associated with these embrittled materials and listing instructions for their safe removal.

Economic advice to the Commission indicates, in addition, that no significant adverse economic impacts are calculated as a result of the immediate effective date for embrittled materials (51). As is indicated in the foregoing discussion, the economic impact of a 30-day and even a 180-day effective date for patching compounds would be significant, and therefore it appears that the economic impact of an immediate effective date would be significant. Since no new information has been presented to show that an earlier effective date should be promulgated, the Commission declines the suggestion of the economic group. Therefore, the effective date of the regulation on consumer patching compounds containing respirable free-form asbestos is 30 days after publication of this rule as to manufacture and 180 days after publication as to all other units of the defined product no matter when manufactured or initially introduced into commerce.

C. Product risks and risk assessment.

Several commenters discussed the Commission's risk assessment for patching compounds and questioned other aspects of the hazard.

(1) A manufacturer suggests that use by the general public or by asbestos workers is not hazardous and that the greatest risk is during sanding operations if he also smokes.

The Commission notes that while data from an epidemiological study of asbestos insulation workers indicated there was an increased risk of death from lung cancer among smokers, it also indicated there was an increased risk of death from other asbestos-related diseases, including asbestosis, among non-smokers (17). Data also suggest that the high risk of mesothelioma cancer in the pleura and peritoneum from asbestos exposure appears to be unrelated to smoking (18, 19).

(2) A distributor of droprails and fireplace equipment doubts there is a hazard associated with dropping materials because the fibers used in embrittlement materials are relatively large and fibers which would become airborne would be kept in the droprails due to the nature of the product. While it is true that the large asbestos fibers bundles pose little risk of inhalation, the fiber bundles release individual fibers which in turn, can break logistically into microscopic fibrils (27). Fibers could become airborne under normal use, installation, and handling conditions, as well as from room drafts. Once the fibers become airborne, they can remain suspended for over long periods of time, eventually settling out on items of furniture, draperies, etc., only to become airborne and available for resuspension with use of these items. As long as respirable form asbestos material remains loose on the fireplace floor, there is a possibility that it could become airborne and thus respirable.

(3) A manufacturer states that since Commission data are based on occupational statistics, it is difficult to document the Commission's view in the proposal that "for many people the major exposure to inhalable asbestos is in the home."

While it is true that much of the Commission data on asbestos-related disease are based on occupational statistics, a risk assessment was based on consumer exposure to respirable asbestos in patching compounds during mixing, sanding and cleanup operations which emphasized the increased risk associated with such exposure in the home. A report of asbestos in consumer patching compounds indicated that significant levels of respirable free-form asbestos fibers were detected in the air adjacent to where the actual patching and cleanup operations had occurred so that other household members could be exposed as well as the individual performing the patching job (28). In many areas of the country (nonurban), there appears to be a relatively low background level of asbestos (32). Therefore, exposure in the home to asbestos fibers released from consumer products could represent the major exposure. As noted in the proposal, Dr. Paul Zeitlin, Johns-Manville, stated in a presentation before the Commission, June 9, 1977, that young children are particularly vulnerable to exposure to carcinogens and clearly their major exposure to inhalable asbestos will be in the home. The Commission therefore feels it is essential to minimize, to the extent possible, exposure to respirable asbestos.

(4) A commenter questions Commission's indication that asbestos is not hazardous for the Commission proposal. The commenter believes that portions of the OSHA review of October 1975 are scientifically inaccurate.

The Commission notes that most of the information on hazards associated with inhalation of asbestos is based on occupational exposure. It can be said that the body of scientific literature in the engineering health field is not subject to public scrutiny. During preparation of the Commission proposal, Commission staff conferred with OSHA. As a result, the Commission proposal deleted references to studies which OSHA termed to be of questionable validity.

As pointed out in the Commission proposal, there had been only one report of consumer exposure to asbestos in the scientific literature prior to the proposal. Based on the data from that study, Commission assessment was made of the potential increased risk of respiratory cancer associated with dropping materials. On the basis of the data, the Commission explicitly excluded asbestos fibers in droprails and fireplace equipment from the definition of consumer patching compounds containing asbestos fibers.

The Commission also based its proposal on direct and indirect evidence of inhalation of asbestos dust associated with dropping materials. Several possibly exposed individuals, including reports from autopsy findings of asbestos fibers in lung tissues and from epidemiological studies.

(5) In assessing the degree and nature of the risk of injury to consumers from patching compounds, the Commission reviewed experimental data and human experience information. In addition, the basis of data by Rohin on exposure to asbestos during the use of consumer patching compounds (30), the Commission's Health Sciences staff calculated an assessment of the risk which was described in the proposal. The calculations were based on the application of a theoretical model similar to that described by Exterline and Henderson (11). Several studies were received in response to the risk assessment. The significant issues raised in these comments are discussed below.

(a) Two commenters questioned the assumption that exposure to asbestos is cumulative over the lifetime of a person, and whether intermittent exposure over several years has the same effect as if the same exposure had taken place in a single year. In reviewing the literature on asbestos exposure, the Commission finds that asbestos fibers are unlike many chemicals and other materials which the body may metabolize and excrete. Body clearance of asbestos fibers is much less effective. They have been found not only to remain in the body but to accumulate and release to the body in a manner that intermittent exposure can lead to cumulative buildup of asbestos fibers. It appears to the Commission that intermittent exposure over several years could have the same hazardous effect as if the total intermittent exposure had taken place within one year.

(b) Two commenters indicated that the data from dropping patching compounds could differ in different circum-
stances. They indicate that persons of differing skills may release different amounts of inhalable asbestos into the air. Although these differences occur, a consumer would likely release more asbestos into the air because he or she may be less skilled in the process than a professional applicator. The Commission recognizes as these commenters point out that several factories have a smaller per capita concentration of asbestos than those which were used for exposure data in the Commission risk assessment. For example, one commenter submitted asbestos exposure data from a study he conducted using a compound that contained a smaller amount of asbestos. Based on this commenter's exposure data, another risk assessment was conducted. The results suggest that use of a patching compound containing less asbestos may reduce but does not eliminate an excess of deaths due to exposure to asbestos in patching compounds. The range is from 1.0 to 1.9 deaths per million persons exposed for the projected five years exposure using one model and up to 262 lifetime excess cancer respiratory deaths per million persons exposed during another model (53). It should be noted here that while asbestos levels may vary, they do not change the fact that there is no known level below which inhalable asbestos may be considered safe.

(c) Another commenter says that using a premixed compound reduces the consumer's exposure to asbestos. The commenter also thought that the Commission's estimate of consumer exposure was too high. The Commission's risk assessment analysis did take into consideration the exposure during the mixing of the patching compound. While exposure to asbestos fibers would be negligible during slight stirring of a premixed compound, the exposure during the sanding and cleaning operations would be the same as for the dry compound. Consequently, the risk assessment values would not be significantly reduced. As for the four-day, eight-hour exposure being too high with an estimated no data were submitted to substantiate that contention. As stated in the proposal, therefore, it appears to the Commission that although the exposure may be high, it is a reasonably foreseeable exposure.

D. Substitutes for asbestos. The July 29, 1977 proposal notes that substitutes for asbestos are already being used in patching compounds. One of the most common substitutes is attapulgite, a fibrous clay. Other substitutes of a fibrous nature are wollastonite, kaolinite, sepiolite and bentonite. Several commenters express concern that materials used as substitutes for asbestos may also pose hazards.

The Commission shares this concern. Substitutes for asbestos have been under consideration for only a short time. Little data are available on which to evaluate the safety of substitute materials. Experience at Sea Island indicate that many mineral fibers (in addition to asbestos) of small respirable dimensions are biologically active under experimental conditions.

According to correspondence dated July 30, 1977 from Mr. Paul Dotin of the Johns-Manville Co. with environmental consultant Barry Castleman, a Johns-Manville study is under way to assess the potential inhalation hazard of certain naturally-occurring mineral fibers such as ceramic fibers. Ceramic fibers are a potential substitute for artificial mineral fibers.

Human exposure data to substitutes are extremely limited. Occupational exposure data to certain clay mineral fibers which are proposed as substitutes are scheduled to be presented at a Symposium on Occupational Exposure to Fibrous and Particulate Dust and Their Extension into the Environment, in December 1977. These data are expected to indicate the extent of exposure, rather than human experience findings on results of such exposure. Data on the results of human exposure to asbestos substances will not, in all likelihood, be available for performance to finite tasks.

(1) A commenter suggests that substitutes, since they would be fibrous, would present a risk.

In assessing asbestos substitutes, data available to the Task Force. The Commission indicates that a number of substances may be used which are not fibrous such as calcium carbonate, clay, minerals and mica. For the fibrous clay minerals, use as substitutes such as wollastonite, kaolinite, sepiolite and montmorillonite, the Commission is aware that there is a lack of conclusive data on the hazard potential associated with these minerals. Additional study is needed to evaluate the risk of inhalation exposure to such small mineral fibers. Nevertheless, the Commission believes that the known risk from inhalable asbestos requires the banning of these products at this time.

(2) A comment questions a statement in the proposal that fibrous glass could be considered a substitute for chrysotile in embrittlement materials.

The Commission concurs with this comment; it is currently unaware of any manufacturers or distributors who use or know of the use of fibrous glass for this purpose. In addition, from a technical viewpoint, glass fibers are not similar in size and shape to chrysotile. Unlike the rod-like glass fibers, chrysotile tends to be curved, or be of curly fibers or fiber bundles, comprised of extremely small-diametered fibers. However, glass fibers are similar—at least in shape—to some of the amphibole asbestos minerals. The diameter class is reportedly greater than 3-5 microns and considered too large to be respirable. However, glass fibers are not of uniform dimensions and a small percentage may be respirable. Additional study is needed to assess the pathologic effects of inhaled fibers, including fibrous glass.

E. Economic considerations. Six commenters express concern that the ban would have an adverse economic impact on the industry. Five of the six are manufacturers who commented on patching compounds. The sixth is a distributor of gas furnace lags.

One patching compound manufacturer claimed that some firms in that industry will go out of business should the ban be promulgated. As noted below, our studies indicate that some small producers may not have the financial capability to reformulate their products satisfactorily or may be unable to obtain necessary raw materials by the effective use of the ban. Thus, some may cease production temporarily; until such reformulation is achieved. Some of the large manufacturers have indicated a willingness to license their asbestos-free formulations (or parts of them) to small firms.

Two commenters discussed potential cost effects of the ban on patching compounds other than those relating to the product itself. One patching compound producer estimated at 68 percent the increased "workload" associated with the professional application of non-asbestos formulations because of different application and market conditions. The Commission has investigated the potential increase in direct labor costs associated with existing asbestos and non-asbestos formulations.34 These data indicate that direct labor costs for existing and non-asbestos formulations are approximately equal.

One company which may be adversely affected by the proposed ban reports that apatite, one of the prime substitutions for asbestos in patching compounds, is in "limited supply" and that manufacturers may have difficulty in obtaining that material. Other industry sources have reported this same problem. The larger patching compound producers, who already have asbestos-free formulations on the market, are not expected to have as much difficulty in obtaining substitute materials.

Two manufacturers discussed the ban's potential adverse effect on the utility of the product. One expressed a belief that non-asbestos formulations are inferior in performance to asbestos formulations. Another emphasized that belief, reporting that the absence of asbestos formulations may prompt workmen to add their own asbestos to the product to help prevent cracking when wall joints are covered. However, the added asbestos would be tantamount to manufacture of the banned product and would thus be prohibited. It appears that at least some existing non-asbestos formulations may be less desirable, from a performance standpoint, to professional contractors; most consumer applicators are not ex-

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RULING AND REGULATIONS

As indicated in the proposal, the Commission is aware that economic impact of varying degrees will occur as a result of the ban on inhalable asbestos containing patching compounds and artificial em¬

peratures and the ban on the use of asbestos in homes that contain artificial em¬

berrnents. It appears to the Commission, therefore, that these products should be removed from commerce as expeditiously as possible in order to avoid having additional numbers of consumers unwittingly purchase these materials. The Commission finds there is good cause to issue the rule on artificial em¬

bergins. The Commission provides that a rule should be published 30 days before its effective date unless the Commission provides otherwise for good case found and published with the rule.

As described in the discussion above, on effective date, the Commission is concerned that ordinary household air current in homes that contain artificial em¬

berrinents in artificial emitter and ash. It appears to the Commission, therefore, that these products should be removed from commerce as expeditiously as possible in order to avoid having additional numbers of consumers unwittingly purchase these materials. The Commission finds there is good cause to issue the rule on artificial em¬

bergins. The Commission provides that a rule should be published 30 days before its effective date unless the Commission provides otherwise for good case found and published with the rule.

1. CPSA Section 8, Section 8 (1) and (2) of the CPSA require that, before is¬

suing a consumer product safety rule, the Commission must find (1) that the product presents an unreasonable risk of injury and (2) that no feasible safety standard can adequately protect the public from the unreasonable risk of injury associated with the product. (a) Unreasonable risk of injury. The regulations are intended to reduce or eliminate the unreasonable risk of injury to the public from cancers such as lung cancer and mesothelioma. The risk is associated with asbestos fibers which are not tightly bound into or encapsulated in the composition of a product. The health risk occurs when asbestos fibers become airborne such as by mixing, sanding, or cleanup operations when using patching compounds, or by the effect of ordinary household air currents on artificial em¬

bergins in artificial emitter and ash. The Commission provides that a rule should be published 30 days before its effective date unless the Commission provides otherwise for good case found and published with the rule.

The information on which the Commission made the determination of unreasonable risk consists primarily of data on exposure of industrial workers to respirable free-form asbestos. Information on the exposure to the public in inhalable asbestos in individual consumer products is limited. However, as is evident from the extensive bibliography included herein, there is general scientific
and medical agreement that there is no known threshold level below which it is safe for people to be exposed to respirable free-form asbestos.

As noted in the proposal, inhalable asbestos in the household from consumer patching compounds and artificial emulsion materials presents a great risk due to the presence of eight to ten children, who may be particularly vulnerable to carcinogens. Because of the long latency period, exposure to inhalable asbestos in the home can be life shortening for children. The Commission notes that consumers are exposed to asbestos from sources other than the banned products. However, consumers who are exposed to asbestos fibers from patching compounds and artificial emulsions and ash receive additional doses of asbestos and can be assumed to face a greater risk than persons not exposed, and a greater cumulative risk than if no asbestos were present in the general environment.

In determining that the risk of cancers is unacceptable, the Commission concluded that the degree and nature of the risk of injury and the probability that the risk will result in harm outweighs the rules' effect on the products' utility, cost, and availability to the public. (b) No feasible safety standard. The Commission is not aware of a technically feasible procedure for removing the hazards of cancer from respirable free-form asbestos in the named products. The Commission believes that not all patching compounds present an unreasonable risk of injury to the public, only patching compounds containing respirable free-form asbestos. The hazard associated with this product is caused by the free form in which the asbestos appears. A safe level of exposure to free-form asbestos is not known. Therefore, it does not appear that a standard for patching compounds containing respirable free-form asbestos is feasible.

The artificial emulsifying materials for fireplaces, containing respirable free-form asbestos is used only in dry form. Thus individual asbestos fibers are not bound together. If the asbestos fibers were coated by another material, such as paper bind the fibers, it would no longer be the same product and would not give the desired decorative effect. In considering the dry character of the product and the fact that a safe level of exposure to respirable free-form asbestos is not known, it does not appear that a standard for artificial emulsifying materials containing respirable free-form asbestos is feasible.

The Commission believes that no standard can render the defined product harmless and concludes that only banning these products can adequately protect the public from unreasonable risks of injury associated with these products. (2) CPSA Section 9(c), Section 9(c) of the CPSA, 15 U.S.C. 2058(b), as amended, requires the Commission to consider and take into account in the promulgation of a rule the special needs of elderly and handicapped persons to determine the extent to which such persons may be adversely affected by such rule. The Commission has considered these needs and has determined that no adverse effect on elderly or handicapped persons will result from this regulation. It is in the best interest of the general public, including the elderly and handicapped, that these hazards be reduced.

3. CPSA Section 9(c). Section 9(c) of the CPSA requires that prior to promulgating a product safety rule the Commission shall consider and make appropriate findings for inclusion in such a rule as to: (1) The degree and nature of the risk of injury the rule is designed to eliminate or reduce; (2) the approximate number of consumer products, or types or classes thereof, subject to such rule; (3) the need of the public for that product; the probable effect of such rule upon the utility, cost, or availability of such products to meet such need; (4) any means of achieving the effect of the rule without eliminating adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices consistent with the public interest and safety; (5) that the rule is reasonably necessary to eliminate or reduce an unreasonable risk associated with such product; and (6) that the promulgation of the rule is in the public interest (15 U.S.C. 2058(c)).

The findings required by Section 9(c) of the act have been described generally in the preceding paragraphs and are incorporated in §§1594.3 and 1595.5 of the rules below.

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**Conclusion**

Upon considering the published proposal, the oral and written responses to the proposal, the relevant material, the Consumer Commission can submit consumer patching compounds and artificial embossing materials (embers and asa) as set forth below.

Accordingly, pursuant to provisions of the Consumer Product Safety Act (sections 3 and 3.5 Stat. 1215-17, as amended, 50 Stat. 508, 15 U.S.C. 2057, 2062), new acts 234 and 235 are added to Title 16, Chapter II, Subchapter 3, as follows:

**PART 1304—BAN OF CONSUMER PATCHING COMPOUNDS CONTAINING RESPIRABLE FREE-FORM ASBESTOS**

**304.1 Scope and application.**

**304.2 Purpose.**

**304.3 Definitions.**

**304.4 Consumer patching compounds as banned hazardous products.**

**304.5 Findings.**


§ 1304.1 Scope and application.

(a) In this Part 1304 the Consumer Product Safety Commission declares that consumer patching compounds containing intentionally added respirable free-form asbestos in such a manner that the asbestos fibers can become airborne under reasonably foreseeable conditions of use, are banned hazardous products under sections 3 and 5 of the Consumer Product Safety Act (CPSA) (15 U.S.C. 2057 and 2058). This ban applies to patching compounds which are (1) used to cover, seal or mask cracks, joints, holes and similar openings in the trim, walls, ceiling, etc., of buildings where, after drying are released to the smooth finish and (2) are produced and distributed for sale to or for the personal use, consumption or enjoyment of a consumer, a permanent or temporary household or residence, a school, in recreation or otherwise.

(b) The Commission has found that (1) the patching compounds are sold or will be distributed in commerce; (2) that they present an unreasonable risk of injury; and (3) that no feasible consumer product safety standard under the CPSA would adequately protect the public from the unreasonable risk of injury associated with these products. This rule applies to the banned hazardous products as defined in section 1304.3 and described further in section 1304.4.

(c) Only consumer products are subject to this regulation. Patching compounds which are consumer products include those which a consumer can purchase. Merely labeling a patching compound for industrial use would not exclude such articles from the ban. If the consumer product is not contained in a commercial or used to cover the product by consumers is facilitated, it is subject to the ban. Patching compounds which are labeled as marketed, and sold solely for industrial use in non-consumer environments are not subject to the ban. In addition to those products which will be sold directly to consumers, the ban applies to patching compounds containing respirable free-form asbestos which are used in residences, schools, hospitals, public buildings, or other areas where consumers have customary access.

§ 1304.2 Purpose.

The purpose of this rule is to ban consumer patching compounds containing intentionally added respirable, free-form asbestos. These products present an unreasonable risk of injury due to inhalation of fibers which increase the risk of developing cancer, including lung cancer and mesothelioma, diseases which have been demonstrated to be caused by exposure to asbestos fibers.

§ 1304.3 Definitions.

(a) The definitions in section 3 of the Consumer Product Safety Act (15 U.S.C. 2052) apply to this Part 1304.

(b) "Asbestos" means a group of mineral fibers composed of hydrated silicates, oxygen, hydrogen, and other elements such as sodium, iron, magnesium, and calcium in diverse combinations and are: Amosite, chrysotile, crocidolite, anthophyllite asbestos, actinolite asbestos, and tremolite asbestos.

(c) "Free-form asbestos" is that, which is not bound, or otherwise "locked-in" to a product by resins or other binding agents, or which can readily become airborne with any reasonably foreseeable use.

(d) "Patching compounds" are mixtures of tare, pigments, clays, casein, ground marble, mica or other similar materials and a binding material such as asbestos which are sold in a dry form ready to be mixed with water, or such combinations in ready-mix paste form.

(e) "Consumer patching compounds" are those that are customarily produced or distributed for sale for or to the personal use, consumption or enjoyment of consumers in or around a permanent or temporary household or residence, a school, in recreation or otherwise. The Commission considers that patching compounds for sale for or to the consumer environments are either distributed for sale to or are for the personal use or enjoyment of consumers.

(f) "Intentionally-added asbestos" is asbestos which is (1) added deliberately as an ingredient intended to impart specific characteristics; or, (2) contained in the final product as the result of knowingly using a raw material containing asbestos. Whenever a manufacturer finds out that the finished product contains asbestos, the manufacturer will be considered as knowingly using a raw material containing asbestos, unless the manufacturer takes steps to reduce the asbestos to the maximum extent feasible.

(g) Initial introduction into commerce occurs when the manufacturer ships a product covered by this regulation from a facility of the manufacturer to a distributor, retailer, or user.
§ 1394.4 Consumer patching compounds as banned hazardous products.

On the basis that airborne asbestos fibers present the hazards of cancer, including lung cancer and mesothelioma, to consumer patching compounds containing intentionally-added, respirable free-form asbestos, which have been manufactured or initially introduced into commerce after January 16, 1973, are banned hazardous products. In addition, all other consumer patching compounds containing intentionally-added, respirable free-form asbestos, no matter when manufactured or initially introduced into commerce, are banned hazardous products after June 11, 1973.

§ 1394.5 Findings.

(a) The degree and nature of the risk of injury. The Commission finds that the risk of injury which this regulation is designed to eliminate or reduce is from cancer, including lung cancer and mesothelioma. In assessing the degree and nature of the risk of injury to consumers, the Commission has reviewed experimental data and human experience information. The Commission noted that in the scientific literature, there is general agreement that a known threshold level below which exposure to respirable free-form asbestos would be considered safe. Further, on the basis of such scientific opinion, it appears to the Commission that children are particularly vulnerable to carcinogenic because of their longer potential lifetime and their rapid rate of growth. In areas of the country where asbestos may not be prevalent in the environment, the major risk of exposure for children and others may occur in the household. In areas of the country where asbestos fibers are present in the environment, the public is exposed to additional risks from the presence of asbestos fibers in households and other commercial areas. The Commission concluded on the basis of these factors that consumer patching compounds containing respirable free-form asbestos present an unreasonable risk of injury to the public. In addition, a risk assessment was made. For purposes of this assessment, the Commission considered the use of patching compounds by the consumer, for six hours a day for four times a year, to be a high yet reasonably foreseeable exposure. The increased risk of death from respiratory cancer induced by this exposure is estimated at between 10 and 2,000 per million. For five years of exposure at these levels, the risk increases geometrically and is estimated at between 100 and 120,000 per million. The lower estimate of 10 per million is closer to the actual risk for a one-year exposure. Nevertheless, in view of the seriousness of the injury and the cumulative effects of asbestos exposure, every cost minimum figure represents an unacceptable risk. The Commission believes that reducing exposure to respirable free-form asbestos in the home requires a substantial decrease in risk to consumers, since, for many people, the major exposure to inhalable asbestos is in the home.

(b) Products subject to the ban. Consumer patching compounds as defined in §1034.2 (d), (e), (f) include such products as drywall spackling compounds and tape joint compounds (commonly known as "jointing and joint mud"). The Commission estimates annual shipments of patching compounds subject to the ban as approximately 30–50 million units, or individual packages, of various sizes from 0.3 to 25 pounds (dry) or 0.3 to 5 gallons (wet). The Commission believes that about half the patching compounds sold in 1977, and intended for sale to or use by consumers, were formulated with asbestos. Many others containing significant levels of asbestos contamination will also be affected by the ban.

(c) Need of the public for the products and effects of the rule on their utility, cost and availability. Patching compounds, though used primarily by commercial users, are also used by consumers, and are used for the patching and sealing of cracks and joints in and around the household and in buildings constructed by consumers or professional applicators. The products are used to cover areas on gypsum drywall which might otherwise be aesthetically undesirable or which might lead to structural damage, energy loss or lower property value. The asbestos in these compounds acts as a structural reinforcing agent which helps to reduce cracking and shrinkage of the compound over time, and which renders the compound more pliable or "workable" upon application.

(1) Utility. The elimination of asbestos from these products may result in the increased use or new development of substitutes which have similar properties to those of asbestos, or which impart similar qualities to the product. In current reformulations, asbestos is replaced by a combination of substances, of which the most common is attapulgite, a fibrous clay. Some asbestos-free formulations are reportedly not as effective as those containing asbestos in controlling shrinkage and cracking over time. The workability of some compounds may be diminished as well. This may adversely affect the utility derived from the product by consumers, and by professional contractors until such time as improved formulations are developed and available to end-users.

(2) Cost. Asbestos-free patching compound formulations may require more time to use. This would tend to increase the labor costs of workmanship and other construction and renovation. The expected increase is between 10 and 25 percent. The Commission estimates that the annual labor cost of drywall finishing in these consumer environments is on the order of $1 billion. The use of non-asbestos patching compound formulations in all applications may increase this cost to $50–250 million, assuming that roughly half the current labor costs (i.e., that portion now associated with the use of asbestos formulations) are affected by the 10–25 percent increase. This cost would be passed directly on to consumers at the time of purchase. The additional costs would be likely to diminish over time as formulations improve and as producers become more accustomed to using non-asbestos formulations. The use of asbestos-containing products has cost increases in the manufacture of patching compounds. The Commission estimates this cost, which may vary widely from year to year, at an average of 3–13 percent. This is made up primarily of increased costs of raw materials and of formulation research and development. It is expected that the price of many patching compounds may rise as a result of this cost.

Producers, distributors, and retailers of patching compounds may also have to incur costs associated with the disposal of asbestos-containing products. The Commission estimates that the wholesale value of manufacturers' and distributors' inventories at the time the ban becomes effective will be approximately $35 million. This may be reflected in the prices charged for asbestos-free patching compound formulations, and in the prices of other drywall and paint products. It appears that, because of competitive pressure from asbestos-containing compounds, producers of asbestos-free formulations have not yet passed on to purchasers their increased costs. If the increased production costs of asbestos-free formulations can be passed on completely as a result of the ban, the total annual price effect for the year following the issuance of the ban may be $10–60 million. The magnitude of this effect may be reduced significantly in successive years following the issuance of the ban as producers' development costs are amortized, as raw materials become more widely available, and as price competition is strengthened because of market pressures and economies of scale associated with product development.

(2) Availability. The supply of asbestos substitutes, particularly attapulgite clay and relatively uncontaminated talc, on which the market for patching compounds may be insufficient to meet the short-run demand which is expected to be stimulated by the promulgation of the ban. Further, many small producers may lack the technical capability to reformulate their products, and may be forced to cease production, at least until formulations of satisfactory cost and performance are developed. The Commission expects that some professional contractors may be indirectly affected by delays in drywall finishing and building completion.

Any measures that may affect the objective of the ban while minimizing adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices would benefit the public health and safety. The adverse effects of the ban on patching compounds containing asbestos is reduced by...
§ 1205.3 Definitions.
(a) The definitions in section 3 of the Consumer Product Safety Act (15 U.S.C. 2052) apply to this part 1205.
(b) "Asbestos" means a group of mineral fibers composed of heat-resistant silicates, oxygen, hydrogen and other elements such as sodium, iron, magnesium and calcium in diverse combinations and are amosite, chrysotile, crocidolite, anthophyllite asbestos, actinolite asbestos, and tremolite asbestos.

§ 1205.4 Artificial fireplace ash and embers as banned hazardous products.

§ 1205.5 Findings.

§ 1205.6 Scope and application.

§ 1205.7 Purpose.

§ 1205.8 Artifical fireplace ash and embers as banned hazardous products.

§ 1205.9 Findings.

§ 1205.10 Artifical fireplace ash and embers as banned hazardous products.

§ 1205.11 Artifical fireplace ash and embers as banned hazardous products.
reasonably necessary to eliminate or reduce the unreasonable risk of injury from cancers such as lung cancer and mesothelioma that are associated with the banned products described herein, that no feasible consumer product safety standard under the Consumer Product Safety Act can adequately protect the public from this risk, and that promulgation of this rule is in the public interest.


Sheldon D. Butts,
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