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40 CFR Part 763

[OPTS-211015; TSH-FRL 2726-8]

Asbestos; Response to Citizens' Petition

AGENCY: Environmental Protection Agency (EPA).

ACTION: Response to Citizens' Petition.

SUMMARY: The Environmental Protection Agency (EPA) is granting a petition filed under section 21 of the Toxic Substances Control Act (TSCA) by the Natural Resources Defense Council, Inc., to prohibit the use of asbestos in automobile and truck brakes. EPA has commenced an appropriate proceeding to address the risks which may be posed by this use of asbestos.

DATE: Submit written comments on or before March 18, 1985.

ADDRESS: Submit written comments in triplicate identified by the document control number (OPTS-211015) to: TSCA Public Information Office (TS-793), Office of Toxic Substances, Environmental Protection Agency, Rm. E-107, 401 M. St., SW., Washington, D.C. 20460.

A copy of the petition and related information (with any confidential business information deleted) is locate d in: Room E-107, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460.

This material is available for viewin g and copying from 8 a.m. to 4 p.m., Monday through Friday, excluding leg al holidays.

FOR FURTHER INFORMATION CONTACT: Edward A. Klein, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, Rm. E-543, 401 M St., SW., Washington, D.C. 20460, Toll-free (800-424-9065). In Washington, D.C.: (554-1404). Outside the USA: (Operator—202-554-1404).

SUPPLEMENTARY INFORMATION:

I. Introduction

Section 21 of the Toxic Substances Control Act (TSCA), 15 U.S.C. 2620, provides that any person may petitio n the Administrator of EPA to initiate a proceeding for the issuance, amendment, or repeal of a rule unde r various sections of the Act. EPA may hold a public hearing or may conduc t an appropriate investigation to determi ne whether the petition should be grant ed. EPA must either grant or deny the petition within 90 days. If EPA grant s the petition, EPA shall promptly commence an appropriate proceedi ng. If EPA denies the petition, the reasons for denial must be published in the Fed eral Register, and the petitioner may commence a civil action in a district court of the United States to compel EPA to initiate a rulemaking proceeding as requested in the petition. Any such civil action must be filed within 60 days after EPA's denial of the petition or, if EPA fails to grant or deny the petition within 90 days after the petition is filed, within 60 days following expiration of the 90-day response period.

II. Evaluation of the Petition

A. *Introduction*

On September 12, 1984, EPA received a petition from the Natural Resources Defense Council, Inc. (NRDC), requesting that EPA prohibit the further use of asbestos in automobile and truck brakes under section 6 of TSCA. The petition requested a prohibition of asbestos in both brakes for new cars and trucks and in replacement brakes for existing vehicles. The petition argued that the risks posed by asbestos in brakes are unreasonable and that economically and technically feasible substitutes are available.

In order to promulgate any rules under TSCA section 6, the Agency must consider a number of factors, including, among other things, the effects of a chemical substance on human health and the magnitude of exposure; the benefits of utilizing the substance; and the availability of substitutes for the use or uses of the substance being assessed. 15 U.S.C. 2605(c)(1). The Agency has conducted a review of the available information pertaining to the use of asbestos in brakes, including the information in NRDC's petition. A summary of that review, including an evaluation of the risks posed by this use and the availability of substitutes, is presented below.

B. *Risk Presented by Asbestos*

Asbestos is a demonstrated human carcinogen that causes lung cancer and mesothelioma (a cancer of the chest and abdominal linings), as well as other lung disorders. People are exposed to asbestos throughout the life cycle of the substance—when asbestos is mined, milled, processed, fabricated into industrial and consumer products, and when those products are used, repaired, and disposed of.

With regard to the use of asbestos in brakes, it has been estimated that about 2,750 people are potentially exposed during primary manufacturing of brake friction materials, and that about 550,000 people are potentially exposed to asbestos during servicing and repair of vehicle brakes (Ref. 6). For example, persons in brake service and repair shops typically are exposed to asbestos

when dust is blown out of brake drums being replaced, when brake linings are roughened to increase friction properties, and when brake shoes are relined.

Use of asbestos in vehicle brakes may also result in increased asbestos fiber concentrations in the ambient air. For example, EPA has evidence that motor vehicle braking most likely contributes between 0.23 to 1.3 percent of the concentration of asbestos in the ambient air (Ref. 7). Both general population and workplace exposures to asbestos fibers from its use in brakes may result in an increased number of asbestos-related illnesses, including cancer.

C. Availability of Substitutes

The petitioner asserts that economically and technically feasible substitutes, most prominently semimetallic friction materials and aramid fibers, are available to replace asbestos in brakes. EPA has analyzed the availability of substitutes for many asbestos products, including brakes, and that analysis is summarized in Appendix A of the "Regulatory Impact Analysis of Controls on Asbestos Products" (Ref. 2), which is included in the public record established for NRDC's section 21 petition. EPA acknowledges that new substitutes for asbestos use in brakes are being developed and that EPA's analysis (summarized below) may not include recent developments.

1. *Heavy vehicle brake blocks.* Brake blocks are components of brakes that are riveted or bolted to the insides of brake shoes to provide protection against the heat and wear caused by braking. Heavy vehicle brake blocks are used on heavy duty trucks, buses, and other heavy duty vehicles. About 34 percent of all asbestos used in brakes is in this category of use. Asbestos heavy vehicle brake blocks account for about 99 percent of the market for heavy vehicle brake blocks.

Until recently, the only commercially available substitute for asbestos heavy vehicle brake blocks was a semimetallic brake block using brass and zinc chips in an organic binder. It is not considered as good as asbestos because it performs erratically at different temperatures. It is also considered inferior to the asbestos brake block in resisting wear and minimizing brake fade. Recently, aramid fiber products, such as Kevlar, have been introduced, but aramid fiber products are now more expensive than asbestos products, and there is not sufficient evidence to determine whether aramid fiber products will be as effective as asbestos in this application. Information suggests that such products may last longer than asbestos-based products, but verification of this information as well as information on price and efficacy of the products are needed before EPA can determine whether continued use of asbestos in brake blocks presents an unreasonable risk.

2. *Light and medium vehicle drum brake linings.* Drum brake linings are made of friction materials which cover curved metal shoes in a drum brake. About 46 percent of all asbestos used in brakes is in this category of use. Light vehicle asbestos drum brake linings may be used in both the front and rear brakes of light and medium vehicles, primarily on the front wheels. However, most passenger vehicles still use drum brake linings on the rear wheels. At least 99 percent of drum brake linings are still asbestos.

Until recently the only substitutes for asbestos brake linings which appeared to have any potential were semimetallic brake linings. However, these products tend to perform erratically at different temperatures, fade, and produce more noise than asbestos-based linings. More recently, brake linings made with aramid fiber have been developed. However, these are more expensive than the asbestos product and there is not currently enough information available to judge the performance of aramid fiber brake linings. Furthermore, EPA's evidence indicates that large volume production of aramid fiber brakes may require substantial retooling by brake manufacturers. Therefore, aramid fiber brakes may not be available in substantial quantities for several years.

3. *Heavy vehicle disc brake pads.* Disc brake pads are steel plates lined with friction materials which rub against a rotor. Heavy vehicles rarely use disc brakes. About 0.1 percent of all asbestos used in brakes is in this category of use.

Semimetallic disc brake pads are about 20 percent more expensive than the asbestos disc brake pads but they last about 30 percent longer. The semimetallics disc brake pads are not considered to be good general replacements for asbestos disc brake pads for heavy vehicles because semimetallics perform better than asbestos only in hostile, high-friction, high-heat environments.

4. *Light and medium vehicle disc brake pads.* These are the same as disc brake pads for heavy vehicles, except they are smaller. About 20 percent of all asbestos used in brakes is in this category of use. In the disc brake market, semimetallic brakes have already made large inroads, and as in the drum brake linings market, aramid-based brakes are just beginning to be introduced. Approximately 50 percent of disc brakes in the original equipment market are asbestos and 50 percent are semimetallic. In the replacement brakes after-market approximately 70 percent of disc brakes are asbestos and 30 percent are semimetallic.

Semimetallic disc brakes cost approximately 3 times as much as the asbestos disc brake pads, but they last about 40 percent longer than the asbestos pads. Semimetallic disc brake pads cannot substitute for asbestos disc brake pads in every application because of inferior performance characteristics. EPA has information indicating that semimetallic disc brakes should be used only in cars with power brake systems because otherwise the semimetallic brakes may not provide enough stopping power. EPA also has information that the semimetallic brakes are slightly inferior because the user has to push harder on them before they are warmed up to get the same performance as with asbestos brakes.

EPA is aware that a good deal of product research is being done to develop effective substitutes for asbestos in brakes. EPA is seeking additional information on substitutes for asbestos in brakes.

III. Conclusion

EPA has decided to grant NRDC's petition because the Agency believes that the use of asbestos in brakes does present risks to human health. EPA is initiating a proceeding to gather information on the desirability and feasibility of reducing risks associated with the use of asbestos in brakes. EPA will analyze the exposure from uses of asbestos, the risk presented by those uses, and the substitutes for such uses. EPA will also gather information of the price, efficacy, and availability of substitutes for asbestos in brakes. After analysis of this information, EPA will determine what further action is appropriate to address the risks which may be posed by this use of asbestos.

Based on information reviewed to date, EPA is not prepared to make an unreasonable risk finding for an immediate ban of all uses of asbestos in brakes at this time. Effective substitutes may not be available for certain applications of asbestos in brakes and substitutes for other applications are not available in sufficient quantity because of limited production capacity. Retooling may be required to make substitutes available in large volumes.

The Agency invites the public to submit comments on issues relating to the petition. EPA is particularly interested in receiving information on both the current availability of substitutes for asbestos in brakes and

on new substitute products that are currently being developed. The Agency has an ongoing workgroup which will review these comments, will continue to investigate the availability of effective asbestos-free substitutes for use in vehicle brakes, and consider appropriate options to address the risk presented by asbestos in brakes.

IV. Record

EPA has established a record for information relating to the NRDC petition. The record includes information considered by EPA in developing this response and consists of the following categories of information:

(1) The NRDC petition.

(2) Appendix A of the "Regulatory Impact Analysis of Controls on Asbestos Products."

(3) Other information on substitutes for asbestos in brakes.

(4) Information received from the public concerning the petition.

(5) Memoranda summarizing meetings and telephone conversations with the public concerning the petition.

(6) Appendix J of the "Regulatory Impact Analysis of Controls on Asbestos Products."

(7) Appendix N of the "Regulatory Impact Analysis of Controls on Asbestos Products."

A public version of the record, without any confidential business information, is available to the public in the Office of Toxic Substances Public Information Office, from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays. The Public Information Office is located in Rm. E-107, 401 M St., SW., Washington, D.C.

Dated: December 14, 1984.

William D. Ruckelshaus,

Administrator.

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