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Docket Officer
Docket No. H-033C
Room S-6212
U. S. Department of Labor
Third Street and Constitution Avenue, NW
Washington, DC 20210

Subject: Comments on Proposed Rules for
Occupational Exposure To Asbestos

Gentlemen:

The Friction Materials Standards Institute is a trade association of manufacturers of friction materials--primarily brake linings and clutch facings. Its 21 United States Members account for about 90% of the United States production of friction materials. Our Members include those supplying original equipment materials to vehicle manufacturers as well as those participating in the automotive and industrial replacement markets. Some employ over 1,000 workers and others employ less than 50 workers.

The Institute asks that its comments concerning the feasibility of OSHA's proposals in the April 10, 1984 FEDERAL REGISTER be made part of the record and be considered in arriving at the final rules for occupational exposure to asbestos.

THE FRICTION MATERIALS PRODUCT

There are several aspects of the friction materials product that differ markedly from other asbestos products. This industry does not have the uniformity of formula which characterizes other asbestos products manufacturers. The larger friction materials manufacturers have in excess of 200 different formulations. While chrysotile is the predominant asbestos type, friction materials manufacturers work with several different fiber lengths as well as with non-asbestos fibers, and with many other non-fibrous ingredients. Exposure levels at a work station will vary from one day to the next based not on the lack of control but on the specific compound being processed at that operation and in other factory areas nearby, and on several other factors.

This industry is regulated, its products being one of the critical materials in hydraulic and air brake systems. Brake linings used in new vehicle brake systems must undergo lengthy qualification and certification tests by the producer and customer before release. Formula or significant processing

changes on released products cannot be put in effect without requalification and recertification. There is also considerable lead time involved when formula or processing change is planned. Change is not only time-consuming but it is costly. Development of a new formula along with the required testing for compliance with either DOT Standard 105 (Hydraulic Brake Systems) or 121 (Air Brake Systems) and moving the product into production can cost in excess of $250,000, and product or process modification costs may also approach this figure.

Some friction materials manufacturers have been evaluating substitutes for asbestos in automotive friction materials for over twenty years. Fibrous substitutes such as steel fiber, Kevlar and fiberglass have been added or substituted in some products and are handled in the same work areas as asbestos fibers. In certain cases use of the substitute fibers complicates measurement of the permissible exposure level due to inability to positively discriminate between fiber types. The industry advocates evolutionary progress in the development of products and processes remembering well the difficulties that developed when the Federal Government forced engineering change in the DOT 121 Air Brake Systems Standard which was subsequently invalidated by the courts.

Products using substitute materials have a material cost two to three times the cost of the asbestos based product being replaced. The cost increase is not limited to material costs. Most substitute materials require substantial capital equipment investment as well as additional labor cost. While there has been progress in the automotive on-highway market, the industrial off-highway market is almost an entirely different market. One cannot substitute certain fibers in friction products used in underground mining equipment for fear of a spark-induced explosion. The friction material used in overhead cranes handling hot metal or heavy loads may not accept a substitute material without adding another hazard. These off-highway friction products have requirements above and beyond normal highway usage and must be tailored to the product line.

The Institute does not have epidemiological data to challenge the evidence associating asbestos with lung cancer and mesothelioma. We do wish to point out, however, that the most complete study of the linkage of asbestos to cancer in a friction materials factory concluded that there was no incidence of lung cancer in the friction materials cohort so exposed, and that any incremental occurrences of mesothelioma were demonstrated in those exposed also to crocidolite asbestos. Chrysotile asbestos is the only asbestos type used in brake linings manufactured in the United States. We are aware of only one manufacturer using anthophyllite in a specific clutch application. To the best of our knowledge, crocidolite and amosite are not used by any United States manufacturer of friction materials. A most graphic illustration of the lack of lung cancer for the friction materials manufacturing cohort is shown in publication of the Berry-Newhouse paper in the British Journal of Industrial Medicine "Mortality of Workers Manufacturing Friction Materials Using Asbestos." (Refer to the Berry-Newhouse report cited as Ex. 84-021 in the Emergency Temporary Standard, page 51114 of November 4, 1983 FEDERAL REGISTER).

The Institute wishes to emphasize that not only is the friction materials product unique among those industries using asbestos, but the epidemiology in the friction materials factory manufacturing chrysotile-containing asbestos products may also be substantially different. With this background, we would like to address several areas in the proposal considering the differences we have indicated.

DEFINITIONS

The Institute concurs with the definition of "asbestos fiber" as "a particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1, and with a maximum diameter of 5 micrometers." The Institute supports addition of the adjective "asbestiform" in front of the nouns "tremolite, anthopyllite, and actinolite" in the current definition.

8 HOUR TIME WEIGHTED AVERAGE PERMISSIBLE EXPOSURE LIMIT (PEL)

With the knowledge gained from controlling asbestos levels for many years, and knowing the difficulties in the measurement technique, as well as the problems with compulsory respirator usage, the Institute believes that:

1. The 0.2 fiber per cc TWA PEL is not feasible.

2. The 0.5 fiber per TWA PEL is feasible in a friction materials factory.

Our position that the 0.2 fiber PEL is not feasible is based on exposure levels resulting from engineering and work practice controls without the respirator (and its 10X multiplier for assumed PEL reduction).

Further, the feasibility of the 0.5 fiber PEL is conditioned on the application of statistical analysis in the measurement of dust counts. Consideration must be given to the development of measurement capability and the associated tolerances, which require that many tests be run in the friction materials factory. Compliance would be aided by the use of control charts at questionable operations and agreement that the regulatory requirements would be met by statistical compliance. We believe that this 0.5 fiber PEL is more protective of the worker as it is based on engineering and work practice controls without the enforcement difficulties and the real-world non-compliance with compulsory respirator programs. It must be noted that these engineering and work practice controls will add significantly to the cost of manufacturing and it will take considerable time to put them in place--up to four years for the most difficult areas.

CEILING LIMIT PEL

We believe that a 5 fiber per cc Ceiling Limit PEL is attainable in the friction materials factory using a combination of engineering and work practice control and respiratory protection, assuming the 10X multiplier for exposure level reduction through use of the respirator.

ACTION LEVELS

The Institute recommends the following action levels to trigger the response:

Medical Surveillance - 0.1 fiber per cc TWA
Regulated Area - 0.5 fibers per cc TWA
Exposure Monitoring - 0.5 fibers per cc TWA
Hygiene Facilities - 0.5 fibers per cc TWA
Protective Clothing - 5.0 fibers per cc Ceiling

These recommendations are stronger than those in the existing standard. All except Protective Clothing are levels based on engineering and work practice controls, without the use of the respirator. Several of these activities are discussed in later sections. We emphasize that the 0.1 and the 0.5 fiber per cc action levels are without respirator usage and are based on using statistical process capability in the measurement of the counts. These levels are supported in this industry by considerations of variability in the work place and reliability of the measurement.

EXPOSURE MONITORING

It is recommended that the frequency of exposure monitoring be maintained at 6 months, with condition that where a count is statistically over the 0.5 fiber per cc action level that respirator usage be mandated in the area until that area is back in compliance with engineering and work practice controls.

REGULATED AREAS

Separate buildings and separate walled areas are not the rule in friction materials factories. The operations change as product demand changes. Signs designating certain areas as Regulated Areas and stating that unauthorized personnel should not be in these areas are practical and enforceable if the suggested action level of 0.5 fibers per cc is adopted. This will allow personnel at other operations to move to and from their work stations without impractical barriers or enforcement techniques. Provision for movement of these other employees through these areas must be considered. In most cases this movement would not add more than 10 minutes exposure during the typical 8 hour work day.

METHODS OF COMPLIANCE

As stated earlier, the Institute believes that 0.5 fiber per cc TWA PEL is feasible in the friction materials work place with engineering and work practice controls without the use of the respirator. The Institute believes that the respirators should not be substituted for engineering controls and work practices because mandatory respirator programs are difficult to enforce and less protective of the employee because of employee opposition to the respirator. The respirator is called for where certain work station counts exceed the PEL until engineering and work practice controls can bring those areas back into compliance.

PROTECTIVE CLOTHING

The Institute advocates that the rules provide for employer provision of protective clothing to the employee at no cost where the work place exposure is above the 5 fiber per cc Ceiling PEL. This provision of protective clothing would include laundering the clothing and/or the use of disposable protective clothing.

MEDICAL SURVEILLANCE

Our industry is concerned with the health of its employees. The Institute generally finds no difficulty with the current or proposed rules for medical surveillance, believing that surveillance should be triggered at the 0.1 fiber per cc TWA level. We claim no expertise on the need for additional tests.

METHODS OF MEASUREMENT

We have a major concern where the permissible levels and action levels are being reduced below 1.0 fiber per cc TWA. First, the use of statistical process capability must be permitted for the measurement of dust counts if OSHA moves to the 0.5 fiber per cc TWA PEL. We disagree that phase contrast microscopy is a feasible and effective method for measuring airborne asbestos fibers to determine compliance at levels lower than 0.5 fiber per cc. We wish to emphasize that this industry has an additional problem due to its use of other fibers and the resulting fiber identification questions during the dust count. Any so-called improvement in the technique will have to be evaluated in the real world over a period of time. We object to the costs involved in the idea of a quarterly "asbestos counting workshop" for all counters. The variances in counts have been exhibited several times in certain "round-robin" count comparisons over the past several years. We object to the lowering of the PEL below 0.5 fiber per cc if that lowering is in any way dependent on new NIOSH or other counting procedures which have not been proven in a real world environment.

HYGIENE FACILITIES

A reasonable improvement in the hygiene facilities would be the addition of showering facilities. This added to the two locker provision for employees in the change room should be a significant step in reducing the movement of asbestos from the work place. Separate change room facilities for clean clothes and dirty clothes would be unwarranted costly additions to the rules. The reduced PEL and shower provisions will greatly enhance the cleanliness of the single change room.

EFFECTIVE DATE

The phase-in of the engineering and work practice controls necessary to achieve the lower PEL is not a short term move. Our Industry will face unique problems with its multiplicity of formulations and the on-going search for reductions in asbestos content in the product. Product and process changes as well as training and preventive maintenance programs will be

necessary in the friction materials industry. We have referred to time problems for change earlier. For the conventional automotive and on-highway friction products we believe the changes can be phased in as follows:

1. Reduction to a 1.0 fiber per cc TWA PEL at two years from adoption of new rules.
2. Reduction to a 0.5 fiber per cc TWA PEL at four years from adoption of new rules.
3. Reduction to the 5.0 fiber per cc Ceiling PEL at four years from adoption of new rules.

For the non-automotive friction material product, it is recommended that there be no intermediate reduction to the 1.0 fiber per cc TWA PEL, but that the rules establish an effective date of 4 years from adoption of new rules for the final TWA and Ceiling PEL's.

Respectfully Submitted,

FRICTION MATERIALS STANDARDS INSTITUTE

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