# ASBESTOS AND HEALTH

## Introduction

A major factor in the reliable prediction of the future course of the "Calidria" business is the correct assessment of the impact of the asbestos/health question. Everyone is familiar with the sensational stories on the subject that have appeared in the media and the alarmist testimony before various legislative bodies that has been presented by the "zero discharge" type crusaders. This publicity has resulted in selling problems and loss of business, mainly as a result of the following situations:

1. Emotional overreaction to scare articles in the press.
2. Orderly reformulation with less toxic materials where suitable.
3. Enactment of a variety of federal and state regulations controlling or limiting the use of asbestos.

This section discusses the scope and impact of the various regulations. It is concluded with an overall assessment of the present and future impact of both the regulations and the public attitude on the future growth of the "Calidria" business.

## Impact of Federal Regulations

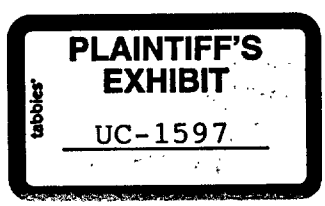
OSHA: The first important asbestos regulation was the OSHA Standard that went into effect on July 7, 1972 after about six months of conflicting testimony. This standard sets certain maximum employee exposure limits for asbestos dust and establishes procedures to follow if the levels are exceeded. Requirements for dust monitoring, warning signs, product labeling, protective clothing, change houses, housekeeping, medical examinations, and record keeping are deliniated in great detail.

The OSHA inspection priorities start with investigations of industrial locations where a fatality has occurred and of worker complaints of unsafe conditions. Next priority goes to target industries such as shipbuilding and construction and target hazards which are led by asbestos. Routine inspections are at the bottom of the list. As a consequence of this ranking, few of our customers have been inspected by OSHA. In general the inspections seem to have been fair with realistic time requirements to make needed corrections. OSHA enforcement pressure to date has been a minimal factor in our business.

Our main difficulty with the regulations stems from customer apprehension and vagueness over what is really needed to comply. The most universal problem has been the medical examination requirement. The regulations can be interpreted to say that everyone who enters a plant where a bag of asbestos is being used must be provided with an annual physical examination. OSHA has not provided any meaningful clarification. This has presented sales problems with a number of customers.

Other than the physical examination question, there have been a variety of points in the regulations that have caused customers to stop using or refuse to start using asbestos. These include: the monitoring requirements; company policy

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to comply with all of the provisions in the regulation even though fiber levels do not require this; reluctance to get involved with a material that is covered by a complex regulation; and the cost to install hoods or ventilation equipment. In general terms, the impact of OSHA has so far been noticeable but not excessive.

It is important to assess whether this will still be the case in the future since the regulations are currently being revised. A very critical item under consideration is the new allowable TWA exposure. The present value of 5 drops automatically to 2 in July 1976. There will be very heavy pressure during the revisions to set a new value that is lower than 2 and put it into effect sooner. At the present time our information is that OSHA will stand on the 2-fiber limit unless convincing new evidence is brought forth that shows it should be lower. It is also our understanding that OSHA plans to clear up a number of the ambiguous points in the regulations including a definition of exposure limits below which a physical examination is not required. If this happens it can only help make the regulations less confusing and easier to use.

The other future problem is enforcement. So far, the end use of asbestos-containing products has not been touched by OSHA. It is becoming evident, however, that almost any time a product containing bound asbestos is cut or abraded some asbestos dust is liberated. OSHA is becoming aware of these possible hazards and inspections will undoubtedly result.

It appears that in the future the lower allowable level of 2 fibers per cc combined with more extensive enforcement can have a substantial effect on certain areas of our business. Uses such as spray texture paints and tape joint compounds are particularly valuable.

EPA Regulations: The EPA asbestos regulations were also the result of adverse publicity and pressures from environmental groups. Asbestos is grouped with beryllium and mercury in the first hazardous substances regulations promulgated under the Clean Air Act. The essential features of the regulations which relate to our business are as follows:

1. No visible emissions to the outside air are permitted from buildings where nine specified manufacturing operations that handle asbestos are performed. Our products are used in three of the nine, i.e. floor tile, coatings and caulk type materials, and plastics.
2. A new or existing Stationary Source in the nine specified operations must register. A stationary source is very broadly defined as any building which emits or may emit any hazardous air pollutant.
3. Spraying of asbestos containing materials is sharply curtailed but the curtailment fortunately is limited to fireproofing and insulating materials. Other than causing confusion, this area does not generally apply to our products.

When these regulations first went into effect on April 6, 1973 there was a flurry of letters from the regional EPA offices to drywall contractors incorrectly telling them they had to register under the spraying provisions. Most of them ignored the letter and we have not heard of anyone actually registering as a source. There has been almost nothing in the news media about EPA enforcement of the asbestos regulations.

In addition to the air pollution regulations, EPA issued on February 26, 1974, a set of liquid effluent guidelines for seven categories of manufacturing



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operations using asbestos. These cover COD, total suspended solids and pH. The only category involving our products is floor tile and there does not seem to be any particular problem.

Finally, it is known that EPA is developing guidelines for the disposal of asbestos containing wastes. The contents of this proposal are not available but it is expected that the industry will have sufficient input to keep things reasonable and realistic.

The direct impact of the EPA regulations on our business has been very small. Even if more vigorous enforcement takes place in the future, compliance should not be particularly difficult.(1)

FDA Activities

The FDA got into the asbestos regulations picture as a result of publicity over imported coats that had raw, long-fiber asbestos as a component in a synthetic fur. The coats were studied by a committee who found them not sufficiently hazardous to recall. In spite of this, a regulation was promulgated that prohibits asbestos in general-use garments unless the fiber is both bound-in and serves a bonafide fire protection function.

We were not selling any asbestos for use in this type of application. Limited efforts on using RG-244 in certain urethane coatings and High Purity in textile coatings have now been curtailed.

The FDA is also currently involved in rulemaking relative to the use of talc contaminated with asbestos in food and in food-packaging materials. In addition, the use of asbestos filters in the manufacture of both food and parenteral drugs is being examined.

This is another variation of the Minnesota/Reserve Mining controversy. There is no evidence that the extremely minute quantity of extremely tiny fibers present is harmful. There is no way to tell how far the EPA will rely on the evidence and how much they will bend to hysteria. Some portion of our paper sales are vulnerable here and a moderate amount of business has been lost already. If the acid-leached product for beer treatment is developed there could be problems for sales in the United States.

Toxic Substances Control Act of 1973

This is proposed legislation contained in House Bill HR 5356 and Senate Bill S-426. These bills were introduced in the first quarter of 1973 followed by extensive testimony. The action groups (whose theme is: "The world is being poisoned") and the press had a field day at the hearings. Asbestos got its share of attention but it should be understood that this bill would have much wider coverage.

The objective of the legislation is to protect the public and the environment from the many toxic substances whose manufacture and use is not now covered by law. The mechanism proposed is pre-testing for safety before commerical use. The controversy is how broad to make the testing requirement; i.e., how do you protect the public without virtually stopping the introduction of new products and wiping out most of the existing small business operations?

(1) This conclusion applies only to our sales activities. The potential impact on the mine and mill is not considered here.

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In view of the problems it raised and the solid opposition from the chemical industry, the bills were sent back to the House/Senate Conference Committee for a reconcilliation of differences that was scheduled to take place during September of 1973. As of June 1974, nothing more has been done and no conferences are scheduled. It seems reasonable to assume that some version of this act will eventually be passed, but that the heavy pressure exerted by the chemical industry will lead to legislation that is workable. We will most likely have to do a certain amount of testing and pass the costs on to the end user.

State and Local Regulations

It is the express intent of Congress to turn over the enforcement of both the EPA and OSHA regulations to the states at such time as the states have their own regulations that are no less stringent. Some states have submitted their own regulations for consideration but approval seems to be bogged down in bureaucratic red tape. It seems likely that any approved state regulations with federal enforcement funding will be very close to the federal standards.

In addition to this "cooperative" program, a number of the states and several large cities have enacted their own regulations. Typically, these are emotional reactions to the bad asbestos publicity and are written under pressure from environmental and/or union groups. They tend to be poorly drafted, vague, and sweeping. It is this type of hodge-podge regulations that can provide a very strong incentive for a product manufacturer to get rid of asbestos.

In the past, the AIA/NA activities have been largely confined to the federal level and the "other side of the story" has not been presented to the state groups. AIA now has a "watchdog" service monitoring the state activities which should provide enough warning to allow some input. The political climate in the states is often such that they are not receptive to information in favor of asbestos and a continuing solid effort is needed.

There are a number of these local regulations that are affecting the asbestos business as summarized below:

California OSHA: This regulation follows the federal regulations quite closely and has the unofficial approval of OSHA. It has a one fiber exposure limit cutoff for medical examinations, which is a definite plus; and it should not present any more problems than the federal OSHA standards.

Minnesota: Here there is a zero limit on asbestos dust emanation from handling, mixing, or cutting asbestos containing materials in building construction. The law is vague on whether the emanation must be during construction or also applies when a building is demolished.

This law has no enforcement mechanism beyond the local town prosecuting attornies and has not been actively enforced. It has however, caused considerable concern in the building trades, and some asbestos-free tape joint mud has been used in Minnesota as a direct consequence. It provides the mud manufacturer with a strong incentive to eliminate asbestos.



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Illinois: This is primarily an EPA type regulation permitting no visible discharge of particulate matter from facilities used in the manufacturing of asbestos containing products, together with a two fiber/cc limit on air discharge. Extensive registration, supervision, and sampling is required.

The state is quite active in enforcing this regulation on large users and some have moved asbestos operations out of the state or made the adjustments to comply. These regulations are only moderately more strict than the EPA but have a number of nuisance requirements.

New York State: New York State has a regulation which says in its entirety: "Section 196.2 Prohibition. No person shall engage in or allow surface coating by the spraying of asbestos or asbestos-containing materials."

This regulation has eliminated the spraying of asbestos insulation, and the use of spray textures containing asbestos.

New York City: New York City has a sweeping prohibition of all harmful or potentially harmful air contaminants that would be violated by anyone driving a car or smoking a cigarette in the streets of the city. It applies specifically to asbestos except that released from brake drums during normal use.

This has had about the same effect as the New York State law in eliminating asbestos usage.

Chicago: This is basically a spraying prohibition for building construction. It has not really affected us beyond spray texture paints.

So far the main effect of these various regulations has been the loss of T-135-0 business in spray textures in the New York area and problems with tape joint manufacturers regarding products sold for use in Minnesota. In the future they present a vaguely defined and probably serious threat. A multitude of vague, strict, but different regulations for each state and major city would provide a powerful incentive for asbestos users to give up the fight and switch to less suitable but unregulated substitutes.

## Toxicological Impact on Calidria - Present and Future

Asbestos is a unique mineral composed of very small but very strong and flexible natural fibers which impart valuable properties to a wide variety of products at a relatively modest cost. Experience has shown that substitutes with equivalent performance are difficult to find.

It has been established epidemiologically that industrial exposure to high levels of asbestos dust for long periods of time can lead to severe disease. An ultimate acceptable exposure limit of 2 fibers/cc has been recommended by NIOSH and accepted by OSHA. This is a low but achievable level for the workplace. The subject of safe exposure level continues to be controversial but we know of no generally accepted evidence that it needs to be lower. Asbestos is another industrial raw material with attendant hazards that can be used safely. It also, under normal circumstances, does not present any undue hazard to the general public.



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The net effect of the toxicology scare on current Calidria business must be taken as a summation of lost accounts and applications, and the potential accounts and applications where success foundered on toxicology. When the combined effects of emotional overreaction, orderly moves to replace asbestos with a less toxic substitute, applications where compliance costs are high, sensitive applications where food is concerned, and stringent local conditions are totalled, it is estimated that business equivalent to 20-30% of our total domestic sales has become unavailable to us. The foreign impact has been less, i.e. in the range of 10-15%.

While some of our business has been eroded, we have been successful in replacing it with new customers and/or new application areas to keep the plant sold out. Barring new medical evidence requiring changes in allowable exposure levels it is expected that this success will continue and be expanded as more product becomes available, but some shifts in the character of the marketplace can be foreseen.

The applications which will survive and grow will be those where asbestos presents a substantial technical and/or economic advantage. Emphasis will be on the large users who can afford in-plant dust control and justify semi-bulk or bulk handling of asbestos. Special and treated forms of asbestos to minimize dust, such as pellets or wetted materials, will also have an important place. End uses where the asbestos is bound in and subjected to little or no abrasion will predominate. End uses where asbestos, even bound in, may be exposed to food or water will be particularly vulnerable and will tend to fade out. These basic principles have been applied in assessing the future of each of the major Calidria markets.

It is evident that much of the asbestos business in the future fits very well with the Calidria business approach. Specialty products such as RG-244 and RG-600, with a high component of technology and high performance, will continue to grow and find new uses. Pellets and coarse ground material for bulk handling and to facilitate dust control measures will become increasingly important.

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