HOUSE RESEARCH

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Information Brief

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ASBESTOS IN SCHOOLS AND OTHER BUILDINGS

This information brief describes asbestos, lists asbestos-related health hazards and discusses how the federal and state legislatures and the court system have responded to the need for asbestos abatement in schools and public buildings.

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Background

The potential health hazards from exposure to crumbling and flaking asbestos in schools and public buildings constructed or renovated between 1940 and 1978 raise difficult questions for state legislatures and the courts. Liability for harm from asbestos exposure ultimately may result in large damage awards against asbestos manufacturers, building contractors and building owners. The legal system is beginning to address these liability issues.

The federal government and state governments, including Minnesota, have started to inspect buildings for soft or loosely bound asbestos containing materials, to impose requirements for removal and/or encapsulation of such materials, and to license removal contractors. Both courts and legislatures must decide how to pay the significant costs associated with abatement of asbestos.

THE PRESENCE OF ASBESTOS

From the early 1940's until the mid 1970's asbestos was almost universally used for thermal and electrical insulation in buildings. It was sprayed or troweled on to overhead surfaces, steel beams, ceilings and walls for insulating, fireproofing and soundproofing. Asbestos continues to be used in cement pipe and sheeting, flooring and roofing materials, household appliances and in the transportation industry for insulation and in brake linings. The use of asbestos containing products has lessened as products are banned and substitutes become available.

There is a table on page 10 that lists the most common asbestos containing products still available on the market.

Spraying and troweling on of asbestos for insulation in buildings has been banned since the mid 1970's. However, no Environmental Protection Agency (EPA) action has been taken on a proposal in the late 1970's to ban all use of asbestos. The Consumer Products Safety Commission is also considering such a ban.

Microscopic asbestos fibers have been found in both indoor and outdoor air. In general, as long as the asbestos fibers remain bound to each other or are encapsulated (covered with some other material that prevents the fibers from escaping), it remains a particularly useful substance. When asbestos dries out or its covering begins to deteriorate, it becomes friable, which means that it flakes off and becomes airborne, thereby exposing people to it. The term "friable asbestos" is generally used to describe any asbestos containing material with more than one percent asbestos that can be crumbled, pulverized or reduced to powder by hand pressure.

ASBESTOS-RELATED HEALTH HAZARDS

Asbestos fibers are extremely tiny and lightweight and can remain airborne almost indefinitely; settled fibers can be easily returned to the air by the slightest disturbance. The fibers are so small that when a person inhales or ingests them they pass through the body's filtration system and end up in the lungs or other vital organs. Lungs and other organs, usually able to clean themselves, cannot prevent the asbestos fibers from permanently embedding themselves in the body.

After a long latency period, often 20 to 30 years after exposure, any of the following diseases may occur. The first two are caused only by exposure to asbestos:

- **asbestosis** - a debilitating lung disease that may produce cardiac failure and death because the lungs are being filled by foreign particles and cannot function

- **mesothelioma** - a rare and always fatal cancer of the chest and abdominal lining

- **lung cancer** - the cilia in the lungs cannot prevent asbestos fibers from reaching the tiny air pockets in the base of the lungs where the fibers scar the tissues and induce cancerous growths

- **other cancers** - inhaled or ingested asbestos fibers absorbed into the blood stream may be responsible for some cancers of internal organs including the esophagus, larynx, stomach, colon and kidney

A "safe" level of exposure to asbestos fibers is in dispute. Most health risk data have been generated by studying asbestos workers with relatively high exposure levels.

The graph on page 4 compares mortality rates from asbestos-related diseases between workers who were exposed to asbestos fibers and those who were not exposed.

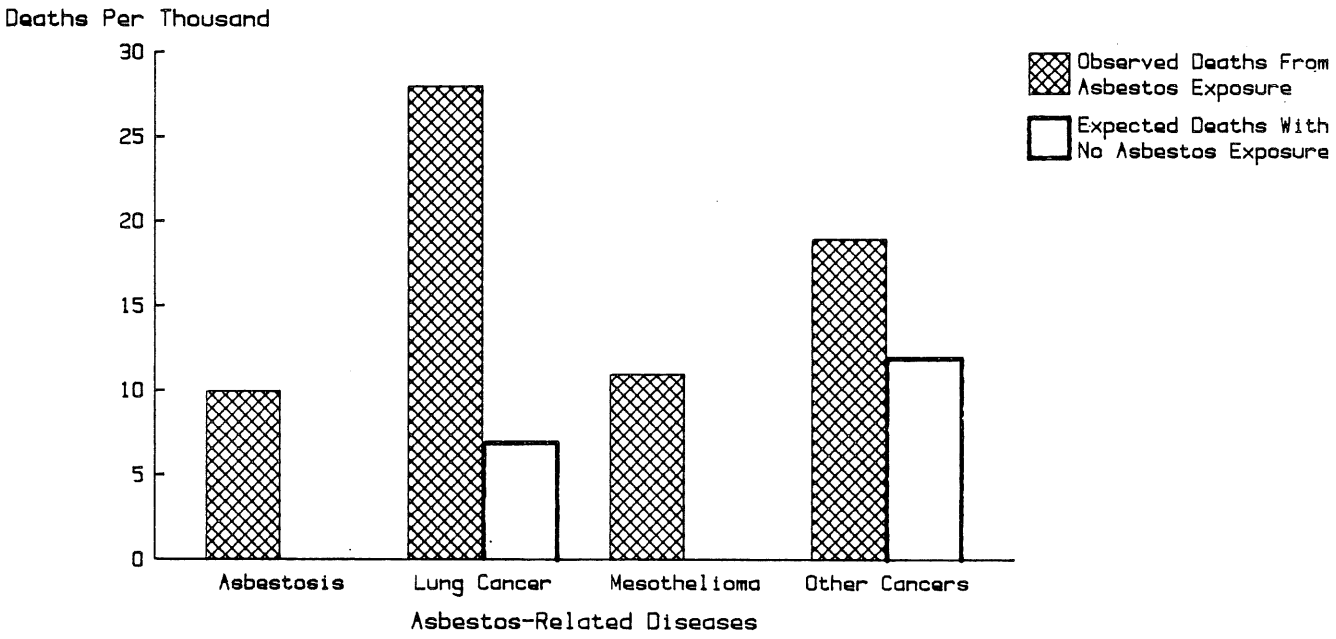
In the past there was very little, if any, research on exposure levels and resulting rates of disease or mortality for persons who had been indirectly exposed to asbestos. Recent studies suggest that there may not be a safe level of exposure below which there is no chance of disease.

One study found that family members of asbestos workers, whose only exposure to asbestos resulted from fibers brought home on the worker's clothing, were several times more likely to develop asbestos-related diseases than individuals who were not exposed at all.

Other studies have found that very small exposure levels can result in one or more of the diseases listed above. Symptoms of asbestos related diseases often appear 20 or more years after initial exposure; a lower exposure level can mean a longer latency period. People who spend time in buildings that are contaminated by asbestos fibers are thought to be at risk of developing asbestos related diseases. With mesothelioma, the earlier in life one inhales asbestos, the greater the likelihood of developing the disease later in life. According to EPA estimates, children, with their high metabolism and air exchange rates and rapid multiplication of cells, are 10 times more likely than a 35 year old adult to develop mesothelioma when exposed to the same levels of asbestos.

The problems of asbestos contamination in buildings, especially in school buildings, have prompted a number of statutory and regulatory actions both on the federal and state level. The EPA estimates that asbestos containing materials are present in at least 31,000 schools and 733,000 other public and commercial buildings throughout the country. About 15 million children and 1.4 million teachers and other school personnel attend school or work in buildings containing asbestos.

Expected and Observed Mortality Among Insulation Workers Exposed to Asbestos Compared to Workers Without Exposure to Asbestos



Source: U.S. Environmental Protection Agency (July 1984)

Government Responses to the Presence of Asbestos in Schools and Other Buildings

SUMMARY OF THE PROBLEM

The presence of friable asbestos in buildings presents some danger to the people who work or go to school in those buildings. Scientists do not yet know how much danger there is but the federal government as well as most states recognize that a danger exists and are moving to encourage or require asbestos removal or encapsulation.

One of the most difficult questions in this area is how to pay the costs of asbestos abatement. Some public money is available but it falls short of what is needed. Building owners, school boards and others are asking courts to decide whether asbestos manufacturers and contractors should be required to pay abatement costs. A new question is will building owners be held liable to building users for injuries sustained due to exposure to asbestos fibers?

Federal and state governments have responded in a variety of ways to asbestos problems. The responses have usually taken the form of statutes and regulations. These actions include the following:

- setting maximum levels for asbestos fibers in indoor air

- banning certain uses of asbestos altogether
- requiring inspection of buildings for the presence of friable asbestos
- requiring removal or encapsulation of asbestos, specifying methods of removal or encapsulation
- licensing contractors who remove or encapsulate asbestos containing material.

FEDERAL ASBESTOS REGULATION

General

Since the early 1970's, Congress has enacted statutes and a number of agencies have adopted regulations to manage asbestos-related hazards. The Clean Air Act regulates concentrations of hazardous air pollutants, including asbestos, to prevent emissions into the outside air. Regulations adopted pursuant to that act, the National Emissions Standards for Hazardous Air Pollutants (NESHAP), govern how demolition and renovation of buildings containing asbestos must be accomplished. NESHAP applies when the amount of asbestos involved is at least 260 linear feet on pipes or at least 160 square feet on other facility components. NESHAP, which in Minnesota is administered and enforced by the Pollution Control Agency (MPCA), requires asbestos removers to notify the appropriate agency of proposed work plans and specifies procedures for wet removal, bagging, tagging and disposal of asbestos. The current NESHAP requirements are more stringent than existing Minnesota rules and therefore are the rules that the MPCA uses to regulate asbestos work in Minnesota. NESHAP was also the vehicle by which the federal Environmental Protection Agency (EPA) banned spraying of asbestos insulation and the use of asbestos in several applications.

The Occupational Safety and Health Act and its resulting OSHA rules is another major source of federal asbestos regulations. These rules govern notification of workers, negative pressure areas for asbestos work, isolation of work areas, protective clothing and decontamination. OSHA applies only to private businesses. The EPA has adopted similar rules for public employees.

School-Related Asbestos Regulation

In the late 1970's, the nation grew concerned over the presence of asbestos containing materials in schools. Using the Toxic Substances Control Act of 1976 for authority, the EPA adopted a technical assistance program in 1979 to assist schools in identifying and correcting asbestos-related problems. Congress was not satisfied with the progress in this area, and in 1980 enacted the Asbestos School Hazard Detection and Control Act, which recognized that exposure to friable asbestos created a potential health risk to school children and school employees. The act encouraged state and local efforts to identify and plan for the removal of dangerous levels of friable asbestos in schools, but did not contain a federal requirement for inspection and removal. Congress included in the act a program for financial assistance to the states, but did not appropriate funds to subsidize the program.

In 1982, the federal government directed schools to notify parents and students that exposure to asbestos fibers represented a potential health risk. In 1984, Congress enacted the Asbestos School Hazard Abatement Act, mandating the EPA to manage asbestos hazards in schools. The act required each state's governor to list those schools most urgently needing asbestos abatement, determine the financial need of each school, and estimate abatement costs. The act also launched a program to answer questions about asbestos and to provide training on effective abatement procedures. The EPA did not immediately request an appropriation to fund the act. Therefore those school districts unable to pay for inspection, removal and encapsulation of friable asbestos products largely ignored the federal legislation. To date, the EPA has issued about $134 million in grants and loans to schools for asbestos abatement under this act.

In 1986, Congress enacted the Asbestos Hazard Emergency Response Act (AHERA), directing states and local education agencies to begin remedying asbestos hazards in the schools. The act imposes strict standards for qualifications of inspectors, project planners and asbestos removal contractors, inspections, response actions, management plans, operations and

maintenance plans, and transportation and disposal; states must establish stringent accreditation programs for asbestos professionals similar to a model EPA plan. AHERA also requires the EPA to assess the availability of insurance for and the financial conditions of abatement contractors, and to determine the extent to which public buildings other than schools contain asbestos materials. Congress allows states to receive a waiver of AHERA requirements if the state establishes and implements or intends to implement a program of asbestos inspection and management at least as stringent as the AHERA requirements. Rules recently promulgated under AHERA:

- require all public and private elementary and secondary schools to inspect for both friable and nonfriable asbestos
- contain strict timetables for submitting and implementing asbestos management plans to control release of asbestos fibers (schools must submit management plans to the state's governor by October 12, 1988, or obtain from the governor an extension to May 9, 1989, and must begin implementing plans by July 9, 1989)
- require periodic surveillance and reinspection by accredited inspectors to monitor asbestos-containing material left in place in schools and to determine if the condition of the material requires a new response action.

About 107,000 schools in over 40,000 school districts will be affected by AHERA requirements. The average cost for a public secondary school to conduct inspections and develop a management plan is estimated to be $3,600. Response action costs vary; between 30,000 and 45,000 schools will implement response actions (including operations and maintenance, removal, enclosure, encapsulation and monitoring) over a 30 year period at an average cost of $40,000. Local education agencies failing to comply with AHERA requirements (by failing to inspect schools, relaying false information, or failing to develop management plans) can be assessed a maximum civil penalty of $5,000 per day per violation; criminal penalties also may be imposed. Fines assessed against a school are to be used by the school for asbestos abatement, with residual amounts of fines being deposited in an asbestos trust fund. Newly built schools meeting certain conditions may be excluded from inspection requirements. The EPA estimates that the total costs of complying with AHERA requirements over a 30 year period are about $3.1 billion.

MINNESOTA ASBESTOS REGULATION

Asbestos is regulated by four state agencies in Minnesota:

- The Department of Labor and Industry administers and enforces OSHA workplace requirements.
- The Pollution Control Agency administers and enforces federal NESHAP requirements governing demolition and renovation of buildings containing asbestos materials.
- The Department of Health administers and enforces licensing requirements for contractors who remove asbestos.
- The Department of Education administers and enforces AHERA requirements governing the inspection and correction of asbestos problems in schools.

Workplace and demolition and renovation requirements are substantially the same in Minnesota as they are in federal OSHA and NESHAP.

Licensing of Contractors

In 1987, partially in response to the state of Minnesota's experience with improper asbestos removal in public buildings, the Minnesota Legislature enacted the Asbestos Abatement Act (Minnesota Statutes sections 326.70 to 326.82). It requires the Commissioner of Health to regulate and license certain asbestos-related activities. The act includes provisions that:

- require licensing of asbestos contractors and certification of asbestos workers

- define asbestos-related work
- require employers to provide the health department with five days prior notice of asbestos projects
- establish fees for licensing and certification of contractors and employees
- require that asbestos-related work be performed only by licensed contractors
- establish an indoor air standard for asbestos
- authorize the health commissioner to adopt rules governing accreditation of personnel and asbestos-handling procedures
- grant the health commissioner access to information and property relevant to asbestos-related work
- impose penalties for violating the act or rules promulgated under the act
- make it a misdemeanor to sanction an employee who complains of violations under the act
- create a revolving fund to support the state's regulatory program.

The licensing requirements have the same minimum asbestos levels as NESHAP. Licenses are not required for contractors who remove less than 260 linear feet of asbestos from pipes or less than 160 square feet of asbestos from other facility components. Because of the threshold amounts in NESHAP and Minnesota's Asbestos Abatement Act, neither removal nor the contractors who remove asbestos in amounts less than the amounts described above are regulated at either the state or federal level.

Minnesota School Asbestos Inspection and Abatement Program

The Department of Education, charged with implementing AHERA requirements, administers the asbestos management plans prepared by local education agencies, including inspection by independent asbestos contractors. The department has assigned about 75 asbestos inspectors to designated regions throughout the state to inspect for asbestos containing materials found in school buildings. The department anticipates receiving before the October 12, 1988 deadline approximately 2,800 management plans from local education agencies outlining the course of action for controlling release of asbestos fibers in school buildings. Local education agencies essentially have one of four management options available to them for controlling asbestos, depending upon the extent to which asbestos containing materials are considered friable.

- nonfriable asbestos materials may be left in place and monitored
- nonfriable asbestos materials with the potential of becoming friable must be encapsulated
- friable asbestos products for which removal is not an option must be enclosed
- friable asbestos materials determined to be dangerous must be removed

In Minnesota, state funds may be used to finance asbestos inspection or abatement programs. Under Minnesota Statutes, section 121.151, school districts have the authority to levy $25 per pupil to support asbestos abatement activities, but must submit a financial plan of intent to the Department of Education. The department has access to a school aid fund for districts needing financial assistance.

The Courts

GENERAL CASES

Courts have to address who will pay the significant costs associated with asbestos removal from buildings. To date public entities, mostly school districts, have lost more damage claims against asbestos manufacturers and contractors than they have won. The major hurdle appears to be in proving that removal is necessary because actual injury has been sustained. The cause and effect relationship between the fairly low level of exposure to asbestos fibers experienced by school children and office workers and asbestos-related diseases is hard to prove to the satisfaction of the law.

There is currently only one appellate level case, City of Greenville v. W.R. Grace and Co., 827 F.2d 975 (4th Cir. 1987), in which a public entity other than a school board attempted to recover asbestos removal costs from a manufacturer. In that case, which is most notable as a departure from the trend of denying plaintiffs relief, the City of Greenville was awarded removal costs and punitive damages based on traditional negligence analysis. The court held that:

- the asbestos fireproofing sold to the city for use in its city hall was dangerous;
- the manufacturer knew it was dangerous because it was already marketing an alternative product due to the danger of an asbestos; and
- the company acted wilfully, wantonly, or in reckless disregard of the rights of others (therefore justifying punitive damages).

The award for punitive damages in this case surprised nearly all the commentators. Most of the comments written in this area of the law have predicted that even if building owners begin to win these cases, claims for punitive damages are unlikely to succeed.

It is difficult to predict whether claims brought by school boards, other public entities and private building owners against asbestos manufacturers and contractors will ever reach the magnitude of asbestos workers' claims for personal injury damages or whether the cases brought will ever result in the nearly automatic verdicts for plaintiffs that have occurred in the asbestos workers' cases. Given the great expense of asbestos abatement and the potential for future harm, especially to past and present school children and persons who work in buildings containing friable asbestos, there may be a large number of cases in the future.

There is some recognition of the potential for verdicts against manufacturers. In the Johns Manville Corporation bankruptcy case, the corporation sought a declaration of bankruptcy in response to the overwhelming number of personal injury or wrongful death cases brought by asbestos workers or their survivors against it. The court set up a trust fund, into which Johns Manville must make periodic payments, to be used to pay claims from school districts for asbestos abatement. Another recognition of potential liability comes from Georgia. That state recently enacted a statutory two-year period during which owners of buildings may bring claims against manufacturers and contractors. The statute assumes that there are grounds for the cases to be brought but does not assume a final outcome for any claim.

Another liability issue related to controlling asbestos containing materials found in buildings is whether building owners, including school boards, will be held responsible for injuries sustained by building users such as workers or students. There is no indication of what may happen in this area but it presents a potentially serious problem for building owners and suggests that asbestos inspection and abatement, whether required by law or not, should be approached carefully.

SCHOOL CASES

Removal, reinstallation and encapsulation represent the most significant costs of abating asbestos containing materials. Many schools, have insufficient economic resources to absorb abatement procedure costs without financial aid from the state or federal government and outside funding sources. School boards have turned to the courts for relief as an alternative to limited government aid. In an attempt to recover for economic loss and property damage, school boards are filing claims against the manufacturers and suppliers of asbestos containing products. While school boards have sought to recover both compensatory and punitive damages, to date courts have awarded only compensatory damages. Many currently pending school asbestos cases involve motions for summary judgment and judgment on the pleadings that were denied. Defendant manufacturers are winning a majority of the final judgments at the trial court level.

Theoretically, school boards seeking to recover the costs of asbestos removal already performed are limited to recovery under a breach of contract theory. However, many school boards are seeking to recover removal costs under a strict product liability theory, claiming physical damage to school property. Under a strict product liability theory, school boards must show that asbestos containing materials injure persons who are exposed to the materials and that ripping out school walls, ceilings and floors as part of abatement procedures damages property other than the asbestos containing materials. Under this theory, the property damage, as an injury, must be caused by an unreasonably dangerous product, not a merely defective product. Which theory school boards pursue determines which statute of limitation applies.

SUMMARY OF ASBESTOS-CONTAINING PRODUCTS

Product	*Average Percent Asbestos*	*Binder*	*Dates Used*
Friction products	50	Various polymers	1910-present
Plastic products			
Floor tile and sheet	20	PVC, asphalt	1950-present
Coatings and sealants	10	Asphalt	1900-present
Rigid plastics	<50	Phenolic resin	?-present
Cement pipe and sheet	20	Portland cement	1930-present
Paper products			
Roofing felt	15	Asphalt	1910-present
Gaskets	80	Various polymers	?-present
Corrugated paper pipe wrap	80	Starches, sodium silicates	1910-present
Other paper	80	Polymers, starches, silicates	1910-present
Textile products	90	Cotton, wool	1910-present
Insulating and decorative products			
Sprayed coating	50	Portland cement, silicates, organic binders	1935-1978
Troweled coating	70	Portland cement, silicates	1935-1978
Preformed pipe wrap	50	Magnesium carbonate, calcium silicate	1926-1975
Insulation board	30	Silicates	Unknown
Boiler insulation	10	Magnesium carbonate, calcium silicate	1890-1978
Other uses	<50	Many types	1900-present

Source: U.S. Environmental Protection Agency (July 1984)