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COMMENTS

Issues in School Asbestos Hazard Abatement Litigation

John P. Kincade

I. INTRODUCTION

In recent years, the carcenogenic effect of asbestos has resulted in thousands of personal injury and wrongful death actions by and on behalf of persons exposed to asbestos. As a result, public concern has arisen over the exposure of school children and school employees to this hazardous material. In order to safeguard the health of the children, teachers, and employees, and to protect school districts from possible liability,[1] asbestos

1. *See Asbestos Scare That Stalks the Schools,* 96 U.S. NEWS & WORLD REP., Mar. 26,

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abatement procedures, which involve finding and covering, or removing and replacing the materials containing asbestos, have become necessary. The high cost of such procedures,[2] however, is leading some school boards and school districts to pursue legal remedies to cover the expense of abating materials containing asbestos in schools.[3] Although no suits have, as yet, come to trial, a South Carolina school district recently settled with an asbestos defendant for $675,000.[4] As public concern and knowledge of the school asbestos hazard increases, more abatement suits become likely. This comment will focus on three key issues in school asbestos abatement litigation: the manufacturer's knowledge of asbestos hazards, proof of an injury in fact,

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1984, at 13 (educators bracing for suits from former students contracting cancer); *School Districts Face Suits Over Asbestos Pollution,* Wall St. J., Mar. 5, 1984, at 7, col. 1 (Environmental Protection Agency (EPA) considering civil action against schools not dealing with asbestos problem).

2. *See Schools Peg Asbestos Fix at $1.4 Billion,* ENGINEERING NEWS REC., Oct. 20, 1983, at 12 (United States Department of Education estimates total cost at $1.4 billion); Silas, *Asbestos-free,* 71 A.B.A.J., Apr. 1985, at 22, 22 (asbestos removal in Baltimore school system has cost $1.5 million).

3. *See* Silas, *Asbestos-free,* 71 A.B.A. J., Apr. 1985, at 22, 22 (85 school suits filed); *More Than 40 School Districts Have Filed Property Damage Lawsuits,* ASBESTOS LITIGATION REP. (ANDREWS) 9253, 9253-59 (Nov. 16, 1984) (alphabetical listing by state of suits filed). The known filings in Texas are: Dayton Indep. School Dist. v. United States Gypsum, No. B-81-277 (E.D. Tex. filed May 22, 1981) (consolidated with Evadale Indep. School Dist. v. United States Gypsum, No. B-81-293); Kirbyville Indep. School Dist. v. National Gypsum, No. 12,301 (Dist. Ct. of Jasper County, 1st Judicial Dist. of Texas, filed June 28, 1983); Livingston Indep. School Dist. v. National Gypsum, No. 9776 (Dist. Ct. of Polk County, 9th Judicial Dist. of Texas, filed June 3, 1983). In addition to the individual suits, a voluntary national class of school plaintiffs against asbestos manufacturing defendants has been certified for the recovery of asbestos hazard abatement costs. *See In re* Asbestos School Litig., No. 83-0268-40, at 36 (E.D. Penn. Memorandum Opinion and Order, filed Sept. 28, 1984), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9051, 9059 (Oct. 5, 1984). The court also certified a mandatory national class for the limited issue of punitive damages. *See id.* at 36. The mandatory class is conditional, however, in that any school has the option to withdraw from the punitive-damage class and negotiate settlement. Any settlement reached will be credited to the asbestos defendants if and when punitive damages are awarded to the mandatory class. *See id.* at 36. In certifying the class action, the court reasoned that a class disposition of issues will realize great savings to both parties because the litigation will be centralized in a single forum, "thereby economizing litigation expenses." *See id.* at 23. The court reasoned that the compensatory-damage class should be optional because the interest of larger school districts could be better served by pursuing their own actions. *See id.* at 25. Other districts, however, will benefit from the class forum because the complex litigation could generate more expense than the anticipated recovery. While recovery for compensatory damages is best achieved on a voluntary basis, the punitive-damage class is mandatory; because of the defendants' limited resources, recoveries in earlier suits could possibly impair and impede the opportunity for other districts to recover punitive damages. *See id.* at 26.

4. *See Asbestos Industry Is Likely to Spend More Time in Court,* Wall St. J., Apr. 16, 1984, at 22, col. 2.

and recovering for the cost of removal and replacement of the asbestos material in tort.

II. GENERAL BACKGROUND—ASBESTOS HAZARDS

Asbestos is the generic name for naturally occurring minerals which separate into fiber.[5] Because of its tensile strength, fire resistancy, and thermal and sound insulation qualities, asbestos, for many years,[6] served as a popular building material in schools.[7] Of the 31,000 schools containing asbestos,[8] most house "friable" asbestos—a soft or loosely bound mixture susceptible to easy destruction.[9] Thus, as school buildings age and experience wear and tear, asbestos fibers are released into the environment and inhaled by the building's inhabitants.[10] Microscopic particles and dust emitted from the

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5. *See* G. PETERS & B. PETERS, SOURCEBOOK ON ASBESTOS DISEASES: MEDICAL, LEGAL, AND ENGINEERING ASPECTS, at A1-A2 (1980). Asbestos occurs in six major mineral forms: actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite. *See id.* at A2-A4.

6. *See* GENERAL ACCOUNTING OFFICE, ASBESTOS IN SCHOOLS: A DILEMMA 1 (Aug. 31, 1982). Asbestos was used extensively in school building construction between 1946 and 1972. *See id.* at 1. In 1973, the EPA banned the spraying of asbestos for insulating and fireproofing. *See* 40 C.F.R. § 61.22(d) (1973). In 1978, the EPA widened its ban to include all spray applications for any purpose. *See* 40 C.F.R. § 61.22(e) (1978) (for current EPA asbestos rules, see 40 C.F.R. § 61.148, .150 (1984)); *see also Second Wave Of Litigation Hits Asbestos,* NAT'L L.J., Oct. 29, 1984, at 1, col.1 (basic building material until outlawed by EPA).

7. *See Oversight Hearings on Asbestos Health Hazards to School Children: Hearings on H.R. 1435 and H.R. 1524 Before the Subcomm. on Elementary, Secondary, and Vocational Education of the House of Representatives Comm. on Education and Labor,* 96th Cong., 1st Sess. 178-79 (1979) (statement of James P. Leineweber, Ph.D.); *see also* GENERAL ACCOUNTING OFFICE, ASBESTOS IN SCHOOLS: A DILEMMA 1 (Aug. 31, 1982) (asbestos valued for "fireproofing, insulating, and acoustical properties and tensile strength"). In school buildings, the asbestos materials are found in floor tiles, support beams, and ceilings. *See* U.S. DEPT. OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 47 (Sept. 21, 1981).

8. *See* Transcript, *ABC World News Tonight,* Sept. 5, 1984 (transcript available from American Broadcasting Corporation).

9. *See EPA Assesses Penalty for Asbestos Violations,* 10 EPA J., Apr. 1984, at 17. Friable asbestos material can be crumbled by hand or on contact. *See id.* at 17. The friability depends upon the other "components mixed with the asbestos and the amount of cement" (mixture adhesive) added. *See* U.S. DEPT. OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 47 (SEPT. 21, 1981).

10. *See* U.S. DEP'T. OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 47-50 (Sept. 21, 1981). Machine vibrations and direct contact also cause a breakdown of the friable asbestos and a release of dust. *See id.* at 47. The EPA lists common activities which may damage exposed asbestos material, inducing fiber fallout:

1. A ball hitting friable material on a gymnasium ceiling or wall.
2. Hanging pictures or displays on friable materials.
3. Any maintenance activity involving contact with friable material.
4. Water damage from roof or plumbing leaks will cause deterioration . . . .

asbestos fiber are known to cause cancer in humans,[11] and the United States Congress has determined that the presence of friable asbestos poses a health hazard to school children.[12]

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5. Building vibrations from sources within or outside the building, including activities on the floor above, or from machinery which can cause movement of friable materials and release of fibers.

6. Vandalism caused by scraping or gouging causing the release of asbestos fibers.

Id. at 48 n.72 (citing 3 U.S. ENVIRONMENTAL PROTECTION AGENCY *[Asbestos-Containing Materials in School Buildings: A Guidance Document]*, pt. I, at 4 (1979)). Once released, their very small size causes the fibers and dust to remain airborne for an extended period of time. *See id.* at 48 (citing 3 U.S. ENVIRONMENTAL PROTECTION AGENCY *[Asbestos-Containing Materials in School Buildings: A Guidance Document]*, pt. I, at 2-4 (1979)). Further, once the dust and particles do settle they may become resuspended into the environment from custodial and student activity. *See id.* at 49.

11. *See* Bertrand v. Johns-Manville Sales Corp., 529 F. Supp. 539, 544 (D. Minn. 1982). Legal and medical literature has firmly established that asbestos can cause cancer-associated diseases. *See id.* at 544; *see also* GENERAL ACCOUNTING OFFICE, ASBESTOS IN SCHOOLS: A DILEMMA 1 (Aug. 31, 1982) (noting that the World Health Organization's International Agency for Research on Cancer lists asbestos as one of 18 cancer-causing chemicals). The diseases associated with asbestos exposure include asbestosis, lung cancer, and mesothelioma. *See* G. PETERS & B. PETERS, SOURCEBOOK ON ASBESTOS DISEASES: MEDICAL, LEGAL, AND ENGINEERING ASPECTS, at B1-B11 (1980). Asbestosis is a non-malignant condition produced from inhaling high levels of asbestos fiber. *See id.* at B2. Asbestosis results in fiberous tissue growth in a human's lungs, and manifestations include shortness of breath, basal lung noises, coughing, club fingers, and skin discoloration. *See id.* at B4-B5. In the most severe forms, death may result. *See id.* at B2. Although lung cancer also results in humans not exposed to asbestos, moderate asbestos exposure increases the risk of lung cancer five to 10 times. *See id.* at B8. One problem associated with determining hazardous exposure levels and resulting lung cancer is the cancer's long latency period. Usually, the time between initial exposure and cancer evidence falls between 15 and 40 years. *See id.* at B8. A third disease associated with asbestos exposure is mesothelioma, a painful, diffuse cancer spreading over the lung surface and/or surface of the stomach lining. *See id.* at B6-B7. Based on medical studies, the occurrence of mesothelioma is associated with a very low level, non-occupational exposure to asbestos. *See id.* at B7.

12. *See* 20 U.S.C.A. § 4011(a)(2) (West Supp. III 1984) ("medical evidence has suggested that children may be particularly vulnerable to environmentally induced cancers"); *id.* § 4011(a)(6) ("the presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of the school children and school employees who are exposed to such materials"). *But see* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 29A, 30A, col. 1. The article stated that school children are "unlikely to experience increased health risks" from exposure. *See id.* at 29A. Further, Dr. Thomas L. Kurt, clinical associate professor of internal medicine at the University of Texas Health Science Center at Dallas, states, "the issue of [asbestos] exposure to school children is greatly out of proportion to the actual danger." *See id.* at 29A. Moreover, federal district Judge James M. Kelly, Eastern District of Pennsylvania, who currently presides over a national asbestos-abatement class action suit, listed the "general health hazard of asbestos" exposure in schools as a common question of fact when certifying the class action. *See Common Questions of Fact Are at Core of Asbestos School Litigation,* ASBESTOS LITIG. REP. (ANDREWS) 9402, 9403 (Dec. 21, 1984).

Since 1982, the U.S. Environmental Protection Agency (EPA) has required school districts to conduct inspections to determine if asbestos materials are present.[13] Although not all asbestos discoveries require action, the EPA has failed to specify guidelines for determining when abatement is necessary.[14] Consequently, most school districts pursue some form of abatement procedure upon discovery of asbestos material.[15] For schools that pay the cost of abatement, the Asbestos School Hazard Abatement Act of 1984[16]

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13. *See* 40 C.F.R. § 763.100 (1984). The EPA order directs "local education agencies" to identify friable asbestos by visually inspecting, sampling, and analyzing the samples. *See id.* The rule further commands school districts to provide warnings concerning asbestos hazards and instructions on asbestos avoidance by school employees and for notification to parent-teacher organizations of the inspection results. *See id.* As of November 1984, the EPA had issued 56 civil penalities for noncompliance with its inspection order, including a $238,000 fine levied against schools within New York City. *See* Flaherty, *Second Wave Of Litigation Hits Asbestos,* NAT'L. L.J., Oct. 29, 1984, at 1, col. 1, 24, col. 1. The EPA intends to fine any school that fails to inform the parents about asbestos hazards confronting their children. *See EPA Assesses Penalty For Asbestos Violations,* 10 EPA J., Apr. 1984, at 17 (statement of Alvin Alm, EPA Deputy Administrator).

14. *See* C. COPELAND, ENVIRONMENT AND NATURAL RESOURCES POLICY DIVISION, CONGRESSIONAL RESEARCH SERVICE, MAJOR ISSUE SYSTEM, BRIEF NO. 1B83160, ASBESTOS IN SCHOOLS: PROGRAM AND POLICY ISSUES 4 (Apr. 26, 1984). The EPA maintains that no rating system or hazard index exists to assist school officials in classifying their asbestos hazard. *See id.* at 4. The EPA attempted to develop a standard, but a draft of such was criticized as failing to be a reliable measure of the non-occupational exposure hazard. *See An Assessment of the Environmental Protection Agency's Asbestos Hazard Evaluation Algorithm,* 73 AM. J. PUB. HEALTH, Oct. 1983, at 1179, 1180-81. The lack of clear guidelines on when to abate and at what level exposure becomes hazardous has led to criticisms of the EPA program. *See* GENERAL ACCOUNTING OFFICE, ASBESTOS IN SCHOOLS: A DILEMMA 7, 18 (Aug. 31, 1981). The absence of definitive criteria has also led some school districts to overreact to asbestos material, while other districts underreact, failing to adequately respond to the hazard. *See id.* at 18-19. The EPA's failure to set definitive guidelines has prompted a suit against the agency. *See Union Sues EPA for Failing to Address Dangers in Schools,* MEALEY'S LITIG. REP.: ASBESTOS (MEALEY) 1142, 1142-43 (Sept. 14, 1984). The suit, brought by the Service Employees International Union, seeks to force the EPA to establish standards for determining when the need for hazard correction exists. *See id.* at 1142.

15. *See* Westbrook, *See You in Court,* AM. SCH. & U., Jan. 1984, at 14. The EPA suggests four varying abatement procedures: (1) total removal, most costly but also most permanent; (2) enclosure, "constructing an airtight barrier around the asbestos material"; (3) encapsulation, coating material to prevent fiber release; (4) deferred action, supplemented with regular inspection when exposure levels are negligible. *See* C. COPELAND, ENVIRONMENT AND NATURAL RESOURCES POLICY DIVISION, CONGRESSIONAL RESEARCH SERVICE, MAJOR ISSUE SYSTEM, BRIEF NO. 1B83160, ASBESTOS IN SCHOOLS: PROGRAM AND POLICY ISSUES 4 (Apr. 26, 1984). EPA surveys indicate that two-thirds of the schools with asbestos problems have taken corrective action or are in the process of taking corrective action. *See Hearings Held on Adequacy of Federal Efforts to Control Asbestos Hazards,* ASBESTOS LITIG. REP. (ANDREWS) 9026, 9027 (Oct. 5, 1984).

16. 20 U.S.C.A. § 4011-4021 (West Supp. III 1984).

provides money grants and loans.[17] However, like earlier federal asbestos abatement efforts, the Act offers ineffective relief to schools.[18] Litigation, therefore, provides an alternative for the recovery of the cost and damage incurred in asbestos abatement procedures.[19]

III. MANUFACTURER'S KNOWLEDGE OF ASBESTOS HAZARDS

An important issue that has emerged in school asbestos abatement litigation is whether a manufacturer's knowledge of the asbestos health hazard and the foreseeability of danger to school inhabitants imposed a duty upon the manufacturer to warn the school boards of the asbestos dangers.[20] The

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17. *See id.* § 4014. As provided within the Act, the program is to be administered by the EPA. *See id.* § 4012(a)(1). The Act establishes $600 million for abatement costs, $50 million of which is appropriated for fiscal year 1985. *See id.* § 4021(a). The law provides up to 100% of the cost of abatement and is interest free for 20 years. *See id.* § 4014(e), (f). If a loan is inadequate, the Act authorizes a grant which is not to exceed 50% of the total abatement cost. *See id.* § 4014(e)(1). The loans and grants are based on financial need. *See id.* § 4014(c)(1)-(3).

18. *See* McCormick, *Asbestos,* 171 AM. SCH. BOARD J., Apr. 1984, at 33 (federal government "all talk and no action" regarding asbestos school hazard). In hearings before the House Energy and Commerce Subcommittee on Transportation and Commerce, John A. Moore, EPA assistant administrator for Pesticides and Toxic Substances, testified that the Act is "likely to be counter-productive" because school districts would begin competing for the federal funds instead of moving quickly on their own. *See Hearing Held on Adequacy of Federal Efforts to Control Asbestos Hazards,* ASBESTOS LITIG. REP. (ANDREWS) 9026, 9027 (Oct. 5, 1984). Previous federal attempts to remedy the asbestos hazard "[have] not inspired an effective government response in the form of either regulation or action." *See* Anderson, II & Nido, *Responding to the Threat of Asbestos-Containing Materials in School Buildings,* INQUIRY & ANALYSIS, Nov. 1982, at 1, 2. The Asbestos School Hazard Detection and Control Act of 1980 failed to provide a "workable solution" to the asbestos problem because it failed to require the removal of asbestos, and its monetary assistance program was never funded. *See id.* at 3; *see also* 20 U.S.C. § 3601 (1982).

19. *See* U.S. DEP'T. OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS, at vii (Sept. 21, 1981) (litigation should be investigated); *see also* McCormick, *Asbestos,* 171 AM. SCH. BOARD J., Apr. 1984, at 33, 35 (suggesting that until South Carolina settlement, bankruptcy petition of Johns-Manville had cast "pallor" over chances of recovery). Citing the expense of personal injury awards against the company, Johns-Manville, in August 1982, filed for reorganization under Chapter 11. *See Manville Files for Bankruptcy, Citing Mounting Litigating Costs,* ASBESTOS LITIG. REP. (ANDREWS) 5397, 5397 (Aug. 27, 1982). Settlements and awards against the asbestos manufacturer totaled over $34 million in 1981 and had reached $27 million when the company applied for reorganization in August 1982. *See* Chen, *Asbestos Litigation Is a Growth Industry,* 254 ATLANTIC, July 1984, at 30. In addition to outstanding personal injury claims, Johns-Manville faces over $1 billion in property-damage claims. *See Asbestos Claims Against Manville Exceed $1 Billion,* Wall St. J., Jan. 31, 1985, at 3, col. 1. Besides Johns-Manville, Amatex Corporation and UNR Industries, Inc., have also applied for Chapter 11 reorganization. *See* Chen, *Asbestos Litigation Is a Growth Industry,* 254 ATLANTIC, July 1984, at 24, 26.

20. *See Common Questions of Fact Are at Core of Asbestos School Litigation,* ASBESTOS LITIG. REP. (ANDREWS) 9402, 9403 (Dec. 21, 1984).

manufacturer is held to the standard of an expert, which requires at the minimum that he keep abreast of scientific discoveries, knowledge, and advances and understand the information available.[21] Thus, to determine what the asbestos manufacturer knew or should have known requires an assessment of the medical and scientific evidence available[22] at the time the schools purchased the asbestos material. In short, the issue becomes what the asbestos manufacturer knew and when the manufacturer obtained such knowledge.

A. *Knowledge in Occupational Exposure Cases*

In a leading asbestos personal injury case involving the knowledge of an asbestos manufacturer, the Fifth Circuit, in *Borel v. Fiberboard Paper Products Corp.*,[23] concluded that the danger of working with asbestos was recognized as early as the 1920's and 1930's and that the "deadly relationship" between asbestosis and insulation work was confirmed in a 1961 report.[24] In another suit involving an asbestos personal injury claim, it was determined that the asbestos industry had remained silent concerning the relationship

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21. *See* Borel v. Fiberboard Paper Prods. Corp., 493 F.2d 1076, 1089 (5th Cir. 1973), *cert. denied,* 419 U.S. 869 (1974); Keeton, *Products Liability—Problems Pertaining to Proof of Negligence,* 19 SW. L.J. 26, 30-33 (1965).

22. *See* Comment, *Issues in Asbestos Litigation,* 34 HASTINGS L.J. 871, 885 (1983). Medical, scientific, or technical evidence pertaining to the state of knowledge in respect to a product at the time when the product is manufactured and designed is referred to as "state of the art" evidence. *See id.* at 885. In products liability actions, the issue arises whether state of the art evidence is admissible under a strict liability theory. *See* Beshada v. Johns-Manville Prods. Corp., 447 A.2d 539, 542 (N.J. 1982) (refused to admit state of art in asbestos personal injury case). It is argued that the introduction of information reasonably known undercuts strict liability by equating it with a negligence standard. *See id.* at 549; Comment, *Issues in Asbestos Litigation,* 34 HASTINGS L.J. 871, 886 (1983); *accord* Borel v. Fiberboard Paper Prods. Corp., 493 F.2d 1076, 1088 (5th Cir. 1973) (coincides with negligence standard), *cert. denied,* 419 U.S. 869 (1974). Moreover, refusing to admit state of the art evidence advances the policies of risk spreading and accident avoidance that strict liability seeks to achieve. *See* Beshada v. Johns-Manville Prods. Corp., 447 A.2d 539, 547-49 (N.J. 1982). In contrast, proponents of state of the art evidence rely on § 402A, comment j, on strict liability, which requires that a manufacturer give warning of a product's dangerousness if he knows or should know of the danger. *See* RESTATEMENT (SECOND) OF TORTS § 402A comment j (1965). If state of the art evidence was excluded, strict liability of a manufacturer would become absolute liability. *See* Comment, *Issues in Asbestos Litigation,* 34 HASTINGS L.J. 871, 888 (1983). In Texas, the rule appears settled that state of the art evidence is relevant and admissible in asbestos-related cases. *See* Hardy v. Johns-Manville Sales Corp., 681 F.2d 334, 344 (5th Cir. 1982) ("strict liability because of failure to warn" based on manufacturer's reasonable knowledge); Borel v. Fiberboard Paper Prods. Corp., 493 F.2d 1076, 1088 (5th Cir. 1973)(plaintiff alleged product unreasonably dangerous because manufacturer failed to warn of known dangers), *cert. denied,* 419 U.S. 869 (1974).

23. 493 F.2d 1076 (5th Cir. 1973), *cert. denied,* 419 U.S. 869 (1974).

24. *See id.* at 1106.

between asbestos and mesothelioma,[25] which was known since the 1930's.[26] Finally, the Sixth Circuit, in rejecting an asbestos manufacturer's appeal on the sufficiency of the evidence, cited to the deposition testimony of the manufacturer's medical director, which indicated the manufacturer's early knowledge of the hazard.[27] Although the manufacturer did not begin warning until 1964, the manufacturer's medical director stated that he was aware of the association between fiber inhalation and cancer by the late 1940's; aware of the "cancer hazard" from inhalation in the late 1950's; and in 1952, his recommendation for the use of warning labels was rejected for purely business reasons.[28]

B. *Establishing Knowledge of Hazards in Schools*

Establishing that the asbestos manufacturers were or should have been aware of asbestos health hazards would support the schools' contention that the manufacturers breached a duty owed to the schools by failing to warn of the dangers associated with asbestos exposure.[29] School plaintiffs could seek to establish the manufacturer's knowledge of the danger and the foreseeability of harm from exposure on the basis of judicial findings in asbestos personal injury cases.[30] In contrast, asbestos defendants could argue that since the personal injury cases involved workers who were exposed to high levels of fiber concentration, such knowledge cannot be equated with a knowledge of the alleged danger emanating from lower level fiber exposure in schools.[31] Commentators, however, suggest that evidence establishes that the manufac-

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25. *See* G. PETERS & B. PETERS, SOURCEBOOK ON ASBESTOS DISEASES: MEDICAL, LEGAL, AND ENGINEERING ASPECTS, at B6 (1980) (cancer associated with low level asbestos exposure). No safe exposure level has been determined, and it is best prevented by "avoiding exposure to asbestos." *See id.* at B7.

26. *See* Bertrand v. Johns-Manville Sales Corp., 529 F. Supp. 539, 544 (D. Minn. 1982) (mesothelioma and asbestos relationship known since 1930's).

27. *See* Moran v. Johns-Manville Sales Corp., 691 F.2d 811, 814 (6th Cir. 1982) (testimony of Dr. Kenneth Smith, Johns-Manville's former medical director).

28. *See id.* at 814.

29. *See* Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace & Co. in Support of Motion for Transfer for Coordinated Pretrial Proceedings at 12, *In re* Asbestos School Litigation, No. 2279-84-NG-8286 (J.P.M.D.L., Dec. 6, 1984), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413, 9417 (Dec. 21, 1984); *see also* RESTATEMENT (SECOND) OF TORTS § 402A comment j (1965) (once knowledge established, duty to warn imposed).

30. *See* Karjala v. Johns-Manville Prods. Corp., 523 F.2d 155, 158-59 (8th Cir. 1975) (imputing knowledge of asbestos hazards in one situation to another situation involving lesser degree of exposure).

31. *Cf.* Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace & Co. in Support of Motion for Transfer For Coordinated Pretrial Proceedings at 12, *In re* School Asbestos Litigation, No. 2279-84-NG-8286 (J.P.M.D.L. Dec. 6, 1984) (issue of whether reasonable to require manufacturer to warn based on "an extrapulation from [manufacturer's] alleged knowledge of the health hazards attributable to occupational exposure to

turers took affirmative actions to suppress and manipulate unfavorable conclusions concerning asbestos danger, while also soliciting scientific findings favorable to asbestos.[32] As support, commentators point to various communications which suggest that asbestos officials were less than candid in informing the public of the risk documented by their studies, and attempted to impede the dissemination of other relevant data concerning asbestos health hazards.[33] Such allegations, if proven, could establish that the manufacturer, in its expert status, failed in its duty to keep abreast of scientific dis-

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high concentration levels of fibers"), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413, 9417 (Dec. 21, 1984).

32. *See, e.g.,* Chen, *Asbestos Litigation Is a Growth Industry,* 254 ATLANTIC, July 1984, at 24 (failed to take reports seriously, later worked to conceal evidence); Motley, *The Lid Comes Off,* TRIAL, Apr. 1980, at 21 (denial of problem and solicitation of favorable evidence); Westbrook, *Asbestos in the Schools* 5, 6 (n.d.) (unpublished manuscript obtained from author; condensed version, *Asbestos in the Schools,* WISC. SCH. NEWS, Dec. 1983, at 7) (asbestos industry actively concealed information rather than encouraging further research).

33. *See, e.g.,* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 34-45A (Sept. 21, 1981) (documents taken from asbestos personal injury litigation); Motley, *The Lid Comes Off,* TRIAL, Apr. 1980, at 21, 21-24 (letters and minutes of asbestos meetings); Westbrook, *Asbestos in the Schools* 6 (n.d.) (unpublished manuscript obtained from author; condensed version, *Asbestos in the Schools,* WISC. SCH. NEWS, Dec. 1983, at 7) (documents and letters between asbestos industry officials). An example of such conduct is a letter dated September 25, 1935, from the editor of *Asbestos,* a trade magazine, to an asbestos manufacturing company president, requesting permission to print an article concerning the hazards of abestos based on a British experiment. *See* Motley, *The Lid Comes Off,* TRIAL, Apr. 1980, at 21. The editor noted that in the past, the asbestos official had "requested that for certain obvious reasons we publish nothing and naturally your wishes have been respected" but that with the proper focus, the British experiment could be used favorably. *See id.* at 21. The article, however, was not published, and in a letter from the company president to an officer of Johns-Manville, the official praised *Asbestos* for not publishing the article, noting " 'the less said about asbestos the better off we are.' " *See id.* at 22. In response, the Johns-Manville officer wrote, " 'I quite agree with you that our interests are best served by having asbestosis receive the minimum of publicity.' " *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 36 (Sept. 21, 1981). A further example of asbestos manufacturers' disregard for imparting relevant information concerns the conduct of Johns-Manville after reviewing results of an experiment, which concluded that 75% of their workers tested had differing degrees of fibrosis in their lungs. *See id.* at 38. The workers, in order to keep their spirits and productivity up, were not told of the findings. *See* Motley, *The Lid Comes Off,* TRIAL, Apr. 1980, at 24. On the basis of the Manville-worker study and other reports, and the company's nonaction, schools could argue that the medical and the public's knowledge of asbestos hazards could have been significantly advanced "if the results of the study had been disseminated." *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 40 (Sept. 21, 1981). For a listing of documents and communications between industry officials, see Motley, *The Lid Comes Off,* TRIAL, Apr. 1980, at 60. For a general discussion of the documents and possible interpretations favorable to a school plaintiff, see U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 34-45A (Sept. 21, 1981).

coveries, knowledge, and advances.[34]

C. *Imposing a Duty to Warn*

Once a school establishes the manufacturer's knowledge of asbestos health hazards, the issue becomes whether the danger to school inhabitants and the school building was foreseeable by the manufacturer, thereby imposing a duty to warn.[35] In resolving an analogous issue, the Eighth Circuit affirmed a jury instruction which allowed the jury to consider whether the known danger to an insulation worker exposed to a high level of fiber concentration put the asbestos manufacturer on notice of the danger to an installation worker exposed to a lower level of fiber concentration.[36] Schools could argue that the known hazards associated with occupational exposure made harm from non-occupational exposure foreseeable.[37] Moreover, even if the likelihood of disease from non-industrial exposure was not as great, a duty to warn was still present.[38] In situtations involving potentially dangerous prod-

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34. *See* Borel v. Fiberboard Paper Prods. Corp., 493 F.2d 1076, 1089-90 (5th Cir. 1973), *cert. denied,* 419 U.S. 869 (1974). *Borel* establishes that the manufacturer must stay informed of all medical and scientific information and use such information to provide a non-dangerous product. If the manufacturers withheld and obscured information, as commentators suggest, then they would have failed the *Borel* test. *Cf. id.* at 1089-90. It should be noted that the communications and documents could be subject to authenticity disputes and differing interpretations. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 35A, 45A (Sept. 21, 1981).

35. *See* RESTATEMENT (SECOND) OF TORTS § 402A comment j (1965) (if seller has knowledge or should have knowledge of product's danger, then must warn of danger).

36. *See* Karjala v. Johns-Manville Prods. Corp., 523 F.2d 155, 158-59 (8th Cir. 1975). The jury instruction informed the jury that the manufacturer would be liable, under the expert standard, it if failed to disclose those dangers "inherent in its product that the application of reasonable foresight would reveal." *See id.* at 159.

37. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 140-42 (Sept. 21, 1981). The report argues that on the basis of foreseeability of harm, a school plaintiff should at least "get to the jury" that knowledge of industrial dangers created a duty to test and warn of exposure danger in schools. *See id.* at 141-42. Regarding the foreseeability of harm, the *Borel* court determined that "[a] product must not be made available to the public without disclosure of those dangers that the application of reasonable foresight would reveal." *See* Borel v. Fiberboard Paper Prods. Corp., 493 F.2d 1076, 1090 (5th Cir. 1973), *cert. denied,* 419 U.S. 869 (1974). The Restatement (Second) of Torts provides that where dangerous but useful products are marketed, warnings must accompany the sale. *See* RESTATEMENT (SECOND) OF TORTS § 402A comment § k (1965). *Borel* applied comment k to commercial products, such as asbestos, which possess "unparalleled utility" and "unquestioned danger." *See* Borel v. Fiberboard Paper Prods. Corp., 493 F.2d 1076, 1088 (5th Cir. 1973), *cert. denied,* 419 U.S. 869 (1974).

38. *See* Davis v. Wyeth Laboratories, 399 F.2d 121, 129-30 (9th Cir. 1968). *Wyeth* holds that warnings must accompany the product when the qualitive risk of the product, such as death or disease, as well as the quantitative risk, calls "for a true choice judgment" on whether to use the product. *See id.* 129-30; *see also* W. PROSSER & W.P. KEETON, THE LAW OF TORTS § 31, at 171 (5th ed. 1984) ("As gravity of the possible harm increases, the apparent

ucts, the Ninth Circuit has determined that a statistical chance of one-in-a-million that harm might occur imposes a duty to warn.[39]

Some asbestos manufacturers did begin warning in 1964,[40] claiming the asbestos health hazards had not been documented until that time.[41] Inadequacy of the warnings, however, remains a ground upon which the manufacturers could be attacked.[42] Additionally, schools could argue that proper warnings would have materially influenced their decision to use the material containing asbestos.[43] Having established that asbestos manufacturers knew or should have known that exposure in schools could cause injury, it becomes imperative for schools to demonstrate that exposure to asbestos did, in fact, cause an injury.

IV. PROOF OF INJURY IN FACT

Nothwithstanding a United States congressional finding that the presence

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likelihood of its occurrence need be correspondingly less to generate a duty of precaution."). Thus, schools could argue that since the risk of death or disease is present, no matter how slight, warnings are required. Even though school exposure is less than industrial exposure, such lessening fails to reduce the overall risk. *See* McCormick, *Asbestos,* 171 AM. SCH. BOARD J., Apr. 1984, at 33. " '[S]cientific evidence suggests that there is no safe dose of asbestos. Any exposure, no matter how small, will increase the risk of cancer.' " *Id.* at 33 (quoting Edwin C. Holstein, Clinical Assistant Professor, Environmental Science Laboratories of Mount Sinai School of Medicine, New York).

39. *See* Davis v. Wyeth Laboratories, 399 F.2d 121, 128-29 (9th Cir. 1968).

40. *See* G. PETERS & B. PETERS, SOURCEBOOK ON ASBESTOS DISEASES: MEDICAL, LEGAL, AND ENGINEERING ASPECTS, at E16 (1980). The following dates are alleged to be when the manufacturers began to warn: Johns-Manville, Eagle-Picher, and Owens Corning—1964; Fiberboard Paper Products and Rubberoid—1966; Pittsburg Corning—1968; Keene—1969; Celotex (formerly Philip Carey)—1971; and Amatex, H.K. Porter, and Raybestos-Manhattan—1972. *See id.* at E16.

41. *See* Moran v. Johns-Manville Sales Corp., 691 F.2d 811, 815 (6th Cir. 1982). Johns-Manville argued that it was not until a 1964 study on asbestos hazards that it was aware of the hazards to users of products containing asbestos. *See id.* at 815. The court found, however, that Johns-Manville's assertion was "belied" by the study itself. *See id.* at 815.

42. *See* Borel v. Fiberboard Paper Prods. Corp., 493 F.2d 1076, 1104 (5th Cir. 1973) (manufacturer's "caution" conveyed no idea of extent of danger; admonition to avoid breathing dust constituted "black humor"), *cert. denied,* 419 U.S. 869 (1974); G. PETERS & B. PETERS, SOURCEBOOK ON ASBESTOS DISEASES: MEDICAL, LEGAL, AND ENGINEERING ASPECTS, at E16 (1980) (after warnings given, question became "were warnings adequate and sufficient").

43. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 143 (Sept. 21, 1981) (if warned, districts would not have allowed installation); *accord* Westbrook, *Asbestos in the Schools* 10 (n.d.) (unpublished manuscript obtained from author; condensed version at *Asbestos in the Schools,* WIS. SCH. NEWS, Dec. 1983, at 7) (manufacturer failed to communicate truth to those with right to know).

of friable asbestos in schools poses a health hazard,[44] whether the hazard from exposure constitutes an injury in fact remains a key issue for determination in school asbestos abatement litigation.[45] As plaintiffs, schools must demonstrate an injury in fact in order to recover for abatement costs and damages.[46] The issue of injury from school exposure is clouded, however, by conflicting medical, scientific, and legal findings, which disagree as to the level of risk associated with non-industrial exposure.[47] The issue is further compounded because there is no specific criteria to determine when the hazard from exposure to materials containing asbestos necessitates abatement, even though legislation requires it.[48] Thus, school boards and asbestos de-

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44. *See* 20 U.S.C.A. § 4011(a)(6) (West Supp. III 1984). The congressional finding concludes that the hazard is "unwarranted." *See id.*

45. *See* Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace & Co. in Support of Motion for Transfer for Coordinated Pretrial Proceedings at 3, *In re* School Asbestos Litigation, No. 2279-84-NG-8286 (J.P.M.D.L. Dec. 6, 1984), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413 (Dec. 21, 1984). Federal District Judge James Kelley, who currently presides over an asbestos hazard abatement class action suit, was the first to list the level of risk from school exposure as a key issue in school litigation. *See Common Questions of Fact Are at Core of Asbestos School Litigation,* ASBESTOS LITIG. REP. (ANDREWS) 9402, 9402 (Dec. 21, 1984).

46. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 91 (Sept. 21, 1981) (plaintiff's first task to prove injury); *accord* W. PROSSER & W.P. KEETON, THE LAW OF TORTS § 103, at 712-13 (5th ed. 1984) (recovery based on injury).

47. *Compare* Bertrand v. Johns-Manville Sales Corp., 529 F. Supp. 539, 544 (D. Minn. 1982) ("mesothelioma may result from one exposure to asbestos dust or fiber") *and* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 32 (Sept. 21, 1981) (quoting J.C. Gilson, *Asbestos Cancer: Past & Future Hazards,* 66 Proceedings of the Royal Society of Medicine 398, 400 (1973)) (reports of diagnosed mesothelioma following short exposure period of few weeks) *with* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 29A, 30A, col. 1 (" 'There is no serious or substantial risk to schoolchildren' ") (quoting Thomas L. Kurt, Associate Professor of Internal Medicine, University of Texas Health Science Center at Dallas) *and* Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace & Co. in Support of Motion for Transfer for Coordinated Pretrial Proceedings at 10, *In re* School Asbestos Litigation, No. 2279-84-NG-8286 (J.P.M.D.L. Dec. 6, 1984) (" 'the risk which asbestos poses to building occupants [is] insignificant' ") (quoting report of Ontario Royal Commission on Matters of Health and Safety from the Use of Asbestos), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413, 9416 (Dec. 21, 1984).

48. *See* GENERAL ACCOUNTING OFFICE, ASBESTOS IN SCHOOLS: A DILEMMA 18 (Aug. 31, 1982) (EPA not provided abatement guidance); *see also* Asbestos School Hazard Detection and Control Act of 1980, 20 U.S.C. § 3601(b)(1) (1982). The Act directed a task force to determine the extent of the hazard posed from the presence of friable asbestos in school buildings. *See id.* § 3601(b)(1) (1980). The recently passed Asbestos School Hazard Abatement Act of 1984 now requires the administrator of the EPA to develop criteria to ascertain the extent of the hazard. *See* 20 U.S.C.A. § 4011(b)(1) (West Supp. III 1984). In December 1984, however, the EPA announced it would not issue standards for assessing the risk of asbestos materials, nor would the agency set a level of risk, which if met, would require abatement or

fendants are suggesting differing resolutions to the injury in fact issue.[49]

One argument supporting abatement is grounded on findings that mesothelioma can be induced by low level, infrequent exposure to asbestos.[50] The findings suggest that even though exposure in schools is at a low level, it is indeed hazardous enough to warrant abatement.[51] Asbestos manufacturers argue, however, that it is incorrect to assume that injuries to some asbestos workers serve as a basis for concluding that an injury is present in a school exposure setting.[52] Further, asbestos manufacturers contend that the mere presence of friable asbestos does not automatically pose a risk.[53] Con-

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removal of the asbestos material. *See EPA Declines to Assess Risks of Asbestos or Require Abatement,* ASBESTOS LITIG. REP. 9405 (Dec. 21, 1984).

49. *Compare* McCormick, *Asbestos,* 171 AM. SCH. BOARD J., Apr. 1984, at 33 ("any exposure will increase the risk of cancer") *with Asbestos Industry Is Likely to Spend More Time in Court,* Wall St. J., Apr. 16, 1980, at 22, col. 2 (asbestos manufacturer claims product in schools not hazardous).

50. *See* Bertrand v. Johns-Manville Sales Corp., 529 F. Supp. 539, 544 (D. Minn. 1982) (one exposure to asbestos dust or fiber may cause mesothelioma); G. PETERS & B. PETERS, SOURCEBOOK ON ASBESTOS DISEASES: MEDICAL, LEGAL AND ENGINEERING ASPECTS, at B7 (1980) (no threshold established to define reasonably safe exposure level; prevention of mesothelioma best accomplished by avoiding asbestos exposure).

51. *See* McCormick, *Asbestos,* 171 AM. SCH. BOARD J., Apr. 1984, at 33 (airborne fiber lower in school, but overall risk not reduced); Selikoff, *Twenty Lessons from Asbestos,* EPA J., May 1984, at 24. Selikoff suggests that a 55-year-old teacher in a school containing asbestos materials with only 10 years of exposure faces risk; because of mesothelioma's propensities, it is important to prevent exposure to children. See id. at 24.

> For any one person risk is low. But for a school system, sheer numbers tell you that you have a problem. . . . The optimists say the health risks of asbestos are tiny; the pessimists—including public health authorities—know some people are going to die from exposure to asbestos. And they would like to see schools help prevent those deaths—no matter how few—by removing the risk.

McCormick, *Asbestos,* 171 AM. SCH. BOARD J., Apr. 1984, at 33, 34 (quoting Edwin C. Holstein, Clinical Assistant Professor, Environmental Science Laboratories of Mount Sinai School of Medicine, New York).

52. *See Common Questions of Fact Are at Core of Asbestos School Litigation,* ASBESTOS LITIG. REP. (ANDREWS) 9403 (Dec. 21, 1984); Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace & Co. in Support of Motion for Transfer for Coordinated Pretrial Proceedings at 3, *In re* School Asbestos Litigation, No. 2279-84-NG-8286 (J.P.M.D.L. Dec. 6, 1984), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413 (Dec. 21, 1984). The asbestos manufacturers attempt to distinguish between high-level, occupational exposure associated with personal injury actions and low-level, non-occupational exposure associated with school actions. *See id.* at 3. The manufacturers claim that school officials, promoted by fears emanating from "unsubstantiated-overgeneralizations" about the hazard of asbestos fiber, are rushing to remove and replace asbestos material without first considering the actual exposure level. *See id.* at 9, 10. Some medical experts agree with the asbestos manufacturers that the risk from occupational exposure does not suggest an equal risk from non-occupational exposure. *See* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 29A, 30A, col. 1.

53. *See* Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace &

sequently, the schools' burden of proving an injury in fact will not necessarily be easy to carry.

To establish that the presence of friable asbestos poses an actionable danger, a school board could request that a court take judicial notice that asbestos exposure creates a hazardous risk.[54] The school district could offer medical findings and prior case law to support this request.[55] Before a court takes judicial notice of a fact, however, the matter must be beyond reasonable dispute.[56] Thus, asbestos defendants could possibly succeed in arguing that medical findings are too inconsistent to support judicial notice.[57]

As a second alternative, schools could use the congressional finding that the presence of friable asbestos poses an unwarranted health hazard[58] as "weighty evidence" to establish that friable asbestos in schools constitutes a public nuisance.[59] Although a congressional finding does not establish the

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Co. in Support of Motion for Transfer for Coordinated Pretrial Proceedings at 3, *In re* School Asbestos Litigation, No. 2279-84-NG-8286 (J.P.M.D.L. Dec. 6, 1984), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413 (DEC. 21, 1984); *see also Asbestos Industry Is Likely to Spend More Time in Court,* Wall St. J., Apr. 16, 1984, at 22, col. 2 (asbestos manufacturer contends "our product is not hazardous in schools and we plan to vigorously defend").

54. *See* FED. R. EVID. 201. Rule 201 allows a court to take judicial notice of a fact that is "not subject to reasonable dispute" because it is "capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned." *See id.* 201(b)(2).

55. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 93 (Sept. 21, 1981). The report characterizes the offered evidence as "adjudicative medical fact." *See id.* at 93.

56. *See* FED. R. EVID. 201(b)(2) advisory committee note. "A high degree of indisputability is the essential prerequisite" for a court to take judicial notice. *See id.*

57. *See* Hardy v. Johns-Manville Sales Corp., 681 F.2d 334, 347-48 (5th Cir. 1982). In *Hardy,* the Fifth Circuit reversed a lower court's judicial notice that asbestos causes cancer. *See id.* at 348. The court cited issues, such as whether mesothelioma can arise without asbestos exposure and the incidence of cancer in the general population, to demonstrate the inappropriateness of taking judicial notice. *See id.* at 347-48. Asbestos defendants should be able to demonstrate that the presence of friable asbestos creating a significant health hazard is open to reasonable dispute. *See* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 29A, 30A, col. 1 (friable asbestos material in schools not substantial enough to create serious hazard); Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace & Co. in Support of Motion for Transfer for Coordinated Pretrial Proceedings at 9, *In re* School Asbestos Litigation, No. 2279-84-NG-8286 (J.P.M.D.L. Dec. 6, 1984) (asbestos in building air rarely poses health threat to occupants), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413, 9417 (DEC. 21, 1984).

58. *See* 20 U.S.C.A. § 4011(a)(6) (West Supp. III 1984). The specific language reads: "(a) The Congress finds that . . . (6) the presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of the school children and school employees who are exposed to such materials . . . ." *Id.*

59. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 167 (Sept. 21, 1981) (offer findings that presence of asbestos amounts to hazardous condition). The Restatement (Second) of Torts provides circumstances that support a finding of interference with a public right. *See* RESTATEMENT (SECOND) OF TORTS

will of Congress,[60] the declaration does offer guidance because of the importance of legislative findings and the "duty" of courts to recognize the policy behind legislative enactments.[61] Once the presence of friable asbestos is considered a nuisance, it would then be necessary to initiate procedures designed to eliminate the asbestos nuisance.[62] The nuisance theory or any other theory based on the congressional finding is subject to limitation, however, due to evidence disputing Congress' finding.[63] Additionally, the Act itself disclaims any intent to effect the legal rights of parties in asbestos school litigation.[64]

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§ 821B (1979). "Circumstances that may sustain a holding that an interference with a public right is unreasonable include the following: (a) whether the conduct involves a significant interference *with the public health,* the public safety, the public peace, *the public comfort* . . . ." *Id.* § 821B(2)(a) (emphasis added).

60. *See* Carter v. Carter Coal Co., 298 U.S. 238, 290 (1936). In determining the effect of congressional recitals, the Court stated the preambles "do not constitute an exertion of the *will* of Congress which is legislation, but a recital of considerations which in the *opinion* of that body existed and justified the expression of its will in the present act." *See id.* at 290.

61. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 163 (Sept. 21, 1981) (legislative finding has significant impact on application of nuisance doctrine in context of asbestos litigation). Addressing the deference owed to congressional findings, the United States Supreme Court held:

> No doubt it is true that a legislative declaration of facts that are material only as the ground for enacting a rule of law . . . may not be held conclusive by the Courts. But a declaration by a legislature concerning public conditions that by necessity and duty it must know, is entitled at least to great respect.

Block v. Hirsh, 256 U.S. 135, 154 (1921) (citations omitted). The Supreme Court has also recognized that courts have a duty to effectuate the policy embedded within a statute, "not only in matters of statutory construction but also in those of decisional law." *See* Moragne v. State Marine Lines, 398 U.S. 375, 390-91 (1970). Thus, the congressional findings could be used to provide evidence that the hazard does, in fact, exist. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 163 (Sept. 21, 1981).

62. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 167 (Sept. 21, 1981). The report speaks in terms of legal redress. *See id.* at 167.

63. *See* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 29A, 30A, col. 1. The article quotes noted medical professors and researchers who dispute suggestions that the amount of friable asbestos material in schools poses a serious health hazard. *See id.* at 29A, 30A, col. 1. The same conclusion, that no discernable risk is posed, is also advanced in a report of the Ontario Royal Commission on Matters of Health and Safety from the Use of Asbestos, which is quoted in part in a brief filed by asbestos defendants. *See* Brief of National Gypsum Co., United States Gypsum Co., and W.R. Grace & Co. in Support of Motion for Transfer for Coordinated Pretrial Proceedings at 9, *In re* School Asbestos Litigation, No. 2279-84-NG-8286 (J.P.M.D.L. Dec. 6, 1984), *reprinted in* ASBESTOS LITIG. REP. (ANDREWS) 9413, 9416 (Dec. 21, 1984).

64. *See* 20 U.S.C.A. § 4019 (West Supp. III 1984). Section 4019 states: "[N]othing in this subchapter shall (1) affect the right of any party to seek legal redress in connection with the purchase or installation of asbestos materials in schools or any claim of disability or death

The existence of factual injury from friable asbestos materials in schools could, perhaps, best be resolved on a case-by-case basis.[65] In such a manner, the court would note the level of dust and fiber released in a school. The judge or jury would then determine whether that level poses a risk to the building's occupants, taking into consideration the relevant studies and findings.

V. Establishing Recovery in Tort for Costs of Removal and Replacement of Asbestos Material

In asbestos school litigation, the existence of an injury in fact, if proven, stems from the asbestos product itself. Consequently, a products liability action grounded in tort may provide a basis for recovery[66] by a school for the cost of removal and replacement of the friable asbestos material.[67] Traditionally, recovery for the removal and replacement of a defective product has been categorized as "economic loss," or compensation only for the value

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related to exposure to asbestos in a school setting . . . ." *Id.* § 4019(1); *accord* U.S. Dep't of Justice, The Attorney General's Asbestos Liability Report to the Congress 163 (Sept. 21, 1981). The report suggests that the congressional finding may be applied in the nuisance context of establishing injury in fact without directly declaring the rights or liabilities of the parties. *See id.* at 163.

65. *Cf.* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 29A, 30A, col. 1. A medical professor stated that the amount of material in the air, in most cases, would not present a need for abatement. *See id.* at 30A, col. 1. Thus, in some cases, the amount of asbestos released into the air would require abatement procedures. Until specific standards are drafted for denoting a hazard and delineating when abatement is necessary, which could be applied universally to all schools, the existence of injury in fact will probably depend upon the court's determination.

66. *See* W. Prosser & W.P. Keeton, The Law of Torts § 95, at 677 (5th ed. 1984) (products liability area of law involving liability of seller of goods for defects in product); *id.* at 678 (theories of recovery in tort). A products liability action in contract is an alternative to recovery in tort. *See id.* at 678 (products actions recoverable under strict liability or negligence in contract, or strict liability or negligence in tort). A contract action, however, is undesirable because stringent defenses and limited theories of recovery restrict the potential for recovery. *See* Memorandum by Michael E. Gurley, Attorney at Law 1 (under cover letter addressed to John P. Kincade dated Jan. 18, 1985) Mr. Gurley currently represents the State of Ohio and the Ohio Department of Mental Health as special state counsel in a suit against asbestos manufacturers for abatement costs for a state mental hospital. He suggests that the amount of damages would be limited to those damages contemplated by the parties when the contract was made. In addition, any recovery obtained is subject to "drastic limitation" by the terms of any warranties covering the asbestos material, agreements between the parties, and any action by the school in contributing to the hazardous condition. *See id.* at 1.

67. *See* 20 U.S.C.A. § 4015(c)(1)(a)-(c) (West Supp. III 1984). In the Asbestos School Hazard Abatement Act of 1984, the United States Congress contemplates abating the threat, replacing the asbestos, and restoring the school buildings. *See id.* § 4015. Over 85 school districts and school boards have instituted suits to recover the asbestos hazard abatement costs. *See* Silas, *Asbestos-free,* 71 A.B.A. J., Apr. 1985, 22, 22.

of the defective product itself.[68] Although physical injury to person and property is recoverable in a strict products liability action grounded in tort, compensation for damage confined to the product is usually held not recoverable[69] because of Uniform Commercial Code applicability.[70] Thus, to recover removal and replacement costs in tort, a school must establish that injury to the asbestos product constitutes a physical injury rather than economic loss.[71] To establish physical injury, schools could propose that the presence of the asbestos material constitutes injury to persons, or that the hazard abatement procedures damage property other than the defective product itself.[72] In addition, even if a court determines that damage to persons or collateral property is not present, policy considerations suggest compensation under tort as property damage when the injury, although confined to the asbestos product itself, is occasioned by an unreasonably dangerous product, as opposed to a merely defective product.[73]

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68. *See, e.g.,* Note, *Economic Loss in Products Liability Jurisprudence,* 66 COLUM. L. REV. 917, 918 (1966) (direct economic loss measurable by repair and replacement costs); Comment, *Strict Liability: Recovery of "Economic" Loss,* 13 IDAHO L. REV. 29, 40 (1976) (damage to product itself constitutes economic loss measured by cost of replacement); Note, *Economic Losses and Strict Products Liability: A Record of Judicial Confusion Between Contract and Tort,* 54 NOTRE DAME LAW. 118, 118 (1978) (economic damage compensating for harm to product).

69. *See* Comment, *Strict Liability: Recovery of "Economic" Loss,* 13 IDAHO L. REV. 29, 39-40 (1976) (economic loss recoverable in non-implied warranty actions but not strict liability); Note, *Economic Losses and Strict Products Liability: A Record of Judicial Confusion Between Contract and Tort,* 54 NOTRE DAME LAW. 118, 118 (1978) (economic loss limited to breach of warranty cases).

70. *See* W. PROSSER & W.P. KEETON, THE LAW OF TORTS § 95A, at 680 (5th ed. 1984) (UCC *exclusive source* for liability if claim arises from intangible economic loss).

71. *Cf.* Shooshanian v. Wagner, 672 P.2d 455, 464 (Alaska 1983) (allowing tort recovery for cost of removal and replacement of dangerous insulation).

72. *See* Cinnaminson Township Bd. of Educ. v. United States Gypsum Co., 552 F. Supp. 855, 859 (D.N.J. 1982). In overruling the asbestos defendant's motion to dismiss, the court ruled that recovery for replacing acoustical plaster containing asbestos "technically" fell within property damage under tort because the asbestos caused the entire ceiling to be worthless. *See id.* at 859.

73. *See* W. PROSSER & W.P. KEETON, THE LAW OF TORTS § 95, at 677-78 (5th ed. 1984). A product's loss due to its dangerous condition is a "product hazard," while loss because of an inferior condition is a product defect. *See id.* at 677-78. The policies of deterring dangerous conduct and imposing a burden on the seller are the same whether an unreasonably dangerous product injures "persons, other property, or the product itself." *See* Mid Continent Aircraft Corp. v. Curry County Spraying Serv., 572 S.W.2d 308, 317 (Tex. 1978) (Pope, J., dissenting); *see also* Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1173 (3d Cir. 1981) ("Tort law imposes duty on manufacturers to produce safe items, regardless of whether the ultimate impact of the hazard is on people, other property, or the product itself.").

A. *Physical Harm Under Restatement (Second) of Torts § 402A*

As provided in section 402A of the Restatement (Second) of Torts, a seller of a product in a defective condition that is unreasonably dangerous to the user or to the user's property is subject to strict liability in tort for physical harm.[74] Damage to the product itself because of its own defect, however, is usually not included within the scope of strict products liability in tort.[75] Thus, in order to fall within 402A's scope of liability, the schools may be required to establish that the defective asbestos product injures persons and property other than the product itself.[76] To demonstrate the applicability of 402A, school boards could argue that friable asbestos products are defective because of carcenogenic propensities, that such propensities render the asbestos material unreasonably dangerous, and that such a defect and danger have resulted in physical harm.[77] Asbestos school plaintiffs could establish the physical harm requirement in either of two ways—harm to the school building's occupants or physical harm to the school building itself.[78]

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74. *See* RESTATEMENT (SECOND) OF TORTS § 402A (1965) (Special Liability of Seller of Product for Physical Harm to User or Consumer). Section 402A states:

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

(a) the seller is engaged in the business of selling such a product, and

(b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

(2) The rule stated in Subsection (1) applies although

(a) the seller has exercised all possible care in the preparation and sale of his product, and

(b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

Id.

75. *See, e.g.,* Fredonia Broadcasting Corp. v. R.C.A. Corp., 481 F.2d 781, 797 (5th Cir. 1973) (strict liability not applicable to economic loss); Arizona v. Cook Paint & Varnish Co., 391 F. Supp. 962, 971 & n.9 (D. Ariz. 1975) (in Ariz., Cal., Hawaii, Tex., and Alaska economic loss not recoverable under Restatement strict liability action), *aff'd,* 541 F.2d 276 (9th Cir. 1976), *cert. denied,* 430 U.S. 915 (1977); Seely v. White Motor Co., 403 P.2d 145, 151, 45 Cal. Rptr. 17, 23 (1965) (economic loss not recoverable under strict liability in tort). *But see* Santor v. A & M Karagheusian, Inc., 207 A.2d 305, 313 (N.J. 1965) (carpet defect recoverable in tort liability). *See generally* Comment, *Strict Liability: Recovery of "Economic" Loss,* 13 IDAHO L. REV. 29, 40 (1976) (economic loss not recoverable in strict liability).

76. *Cf.* Seely v. White Motor Co., 403 P.2d 145, 151, 45 Cal. Rptr. 17, 23 (1965) (strict liability in tort limited to physical harm to property or person); Mid Continent Aircraft Corp. v. Curry County Spraying Serv., 572 S.W.2d 308, 311 (Tex. 1978) (strict liability applies to personal injuries and damage to other property in Tex.).

77. *See* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 99 (Sept. 21, 1981) (allege asbestos hazardous because carcinogen).

78. *See* RESTATEMENT (SECOND) OF TORTS § 402A (1965) (strict liability for seller causing harm to user or user's property).

1. Injury to Person

A claim by school boards for harm to the user could be based on the medical hazards associated with exposure to friable asbestos.[79] Asbestos defendants, however, could counter that physical harm to the students, teachers, and employees is not sufficiently proven because no conclusive medical evidence exists to establish that non-occupational exposure to friable asbestos is hazardous,[80] and no cases of disease associated with exposure in schools have been documented.[81] Establishing physical harm to the occupants is possible, however, since evidence has concluded that asbestos is carcenogenic,[82] and numerous findings and studies indicate that the presence of friable asbestos in schools is hazardous enough to warrant abatement.[83] Further, courts in England have held that waiting until actual physical harm is documented is unnecessary when the potential for injury exists.[84] American courts concur.[85] Thus, school boards could satisfy the physical harm

79. *See* Westbrook, *See You in Court,* AM. SCH. & U., Jan. 1984, at 14 (asbestos materials cause and will cause serious injury to students and school personnel); *Oversight Hearings on Asbestos Health Hazards to School Children: Hearings on H.R. 1435 and H.R. 1524 Before the Subcomm. on Elementary, Secondary, and Vocational Education of the House of Representatives Comm. on Education and Labor,* 96th Cong., 1st Sess. 298 (1979) (cancer risk from exposure greater in children).

80. *Cf.* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 29A, 30A, col. 1 (friable asbestos material in schools not substantial enough to create serious hazard).

81. *See id.* at 29A (no documented case of person contracting asbestosis); *see also* Westbrook, *See You in Court,* AM. SCH. & U., Jan. 1984, at 14-15 (disease-related exposure only now beginning to appear). *But see Asbestos Scare That Stalks the Schools,* 96 U.S. NEWS & WORLD REP., Mar. 26, 1984, at 13 (estate of former teacher suing asbestos manufacturers over death caused by mesothelioma).

82. *See* GENERAL ACCOUNTING OFFICE, ASBESTOS IN SCHOOLS: A DILEMMA 1 (Aug. 31, 1982) (citing finding of World Health Organization's International Agency for Research on Cancer that asbestos one of 18 "chemicals known to cause cancer in humans").

83. *See* 20 U.S.C.A. § 4011(a)(6) (West Supp. III 1984) (presence of asbestos unwarranted health hazard); *id.* § 4011(b)(3) (purpose to provide assistance for abatement); 40 C.F.R. § 763 (1984) (exposure in schools increases risk of developing cancer); *see also* GENERAL ACCOUNTING OFFICE, ASBESTOS IN SCHOOLS: A DILEMMA 2 (Aug. 31, 1982) (discussing Environmental Defense Fund finding that asbestos in schools poses unreasonable danger of injury).

84. *See* Anns v. London Borough, [1977] 2 ALL. E.R. 492, 514 (damages constituting potential danger because of defect are recoverable) (Lord Salmon); Dutton v. Bognor Regis United Building Co., [1972] ALL. E.R. 462, 474 (defect discovered before injury, defendant surely liable for cost of repair) (Lord Denning Mr.); J. FLEMMING, THE LAW OF TORTS 505-06 & n.18 (5th ed. 1977) (citing English cases as support for recovery for averting potential danger). *See generally* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 111 (Sept. 21, 1981) (arguing for application of English cases to asbestos school issues).

85. *See* Gladiola Biscuit Co. v. Southern Ice Co., 267 F.2d 138, 140 (5th Cir. 1959) (defendant liable for costs even though physical harm prevented); Northern Power & Eng'g Corp.

requirement by showing that medical hazards associated with exposure to friable asbestos are present and that such hazards constitute physical harm to the user, even though the exposure has not yet manifested into documented cases of disease.

2. Injury to Collateral Property

A second manner of establishing physical harm in order to come within section 402A's scope of strict liability is to demonstrate damage or injury to property other than the defective or dangerous product.[86] Asbestos school plaintiffs could argue that the physical act of ripping out and tearing away the asbestos material from other parts of the school building reflects damage to property other than the product itself.[87] In an analogous situation, however, involving the removal of flammable insulation from public buildings, the Ninth Circuit affirmed a judgment holding that procedures initiated for the removal of the insulation, which damaged parts of the building structure, did not constitute an injury within tort strict liability recovery.[88] Conversely, a more recent decision from the Alaska Supreme Court held that where the plaintiff destroyed part of a wall in removing dangerous insulation, physical damage to property is measurable by the cost of repairing the

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v. Caterpillar Tractor Co., 623 P.2d 324, 329 n.10 (Alaska 1981) (recovery for creating potentially dangerous situation); *see also* Comment, *Strict Liability: Recovery of "Economic" Loss,* 13 IDAHO L. REV. 29, 49 (1976) (allow recovery for damage defective product likely to cause). *But see* Trans World Airlines v. Curtiss-Wright Corp., 148 N.Y.S.2d 284, 290 (Sup. Ct. 1955) (no wrong if danger averted). *Trans World Airlines* is criticized on policy grounds for not effecting a policy favoring deterrence of harm-threatening conduct. *See* Note, *Economic Loss in Products Liability Jurisprudence,* 66 COLUM. L. REV. 917, 951 (1966) (policy of deterrence applicable where product causes unreasonable danger).

86. *See* RESTATEMENT (SECOND) OF TORTS § 402A (1965); Note, *Economic Losses and Strict Products Liability: A Record of Judicial Confusion Between Contract and Tort,* 54 NOTRE DAME LAW. 118, 118 (1978) (recovery under tort strict products liability for property damage other than to defective product).

87. *See* Shooshanian v. Wagner, 672 P.2d 455, 464 (Alaska 1983). Court determined that destroying walls in order to reach defective and dangerous insulation constituted property damage. *See id.* at 464. Another court ruling on the issue found that removing the asbestos material also required removing parts of the ceiling, which constituted property damage. *See* Cinnaminson Township Bd. of Educ. v. United States Gypsum Co., 552 F. Supp. 855, 863 (D.N.J. 1982) (overruling defendant's motion to dismiss).

88. *See* Arizona v. Cook Paint & Varnish Co., 391 F. Supp. 962, 971 (D. Ariz. 1975), *aff'd,* 541 F.2d 226 (9th Cir. 1976), *cert. denied,* 430 U.S. 915 (1977). The court held that removal of the insulation represented mere consequential damage stemming from the product's failure to meet performance expectations. *See id.* at 972. However, in a more recent decision from within the Ninth Circuit, a court determined whether removal and replacement of flammable insulation constituted "property damage," thereby activating an insurer's duty to defend. The court stated that repair and removal of the insulation did not involve the issue of property damage, but concerned the issue of damages incurred by the property damage. *See* Aetna Casualty & Surety Co. v. PPG Indus., 554 F. Supp. 290, 293, 294 (D. Ariz. 1983).

damaged structure.[89] This latter view appears more reasonable since damage to the school building structure from removal procedures or contamination within the structure occasioned by falling asbestos should be recognized as property damage. If, however, an asbestos school plaintiff is unsuccessful in establishing an injury to persons or collateral property, policy arguments suggest that even when damage is contained to the product itself, such injury should be compensated in tort as property damage when caused by a hazardous defect.[90]

B. *Injury Confined to the Product as Property Damage Within § 402A*

In the absence of injury to persons or other property, courts have historically denied recovery in tort for damage to a product occasioned by its own defect.[91] In denying recovery, courts have focused primarily on the type of damage alleged—cost of repair or replacement, loss of use, and inadequate value—and have concluded that such losses are best compensated by Uniform Commercial Code provisions regarding the rights of parties to a sales transaction.[92] Focusing solely on the type of damage alleged, however, fails to consider the risk posed and the manner in which the injury arose.[93] Recently, the focus has shifted from the type of damage incurred to the nature

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89. *See* Shooshanian v. Wagner, 672 P.2d 455, 464 (Alaska 1983). The court stated that the critical issue is whether "the product is dangerously defective, and whether the dangerous defect caused the *property damage* alleged by the [plaintiffs]." *See id.* at 464 (emphasis added).

90. *See, e.g.*, U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 108 (Sept. 21, 1981) (refers to damage contained to dangerous product as economic loss and suggests recovery in tort); J. FLEMMING, LAW OF TORTS 505-06 (5th ed. 1977) (if product threatens injury, plaintiff ought to recover at least cost of averting injury); Comment, *Strict Liability: Recovery of "Economic" Loss,* 13 IDAHO L. REV. 29, 41 (1976) (plaintiff should recover all damages for defective product if it has potential for causing harm). *But see* Keeton, *Private Law, Torts,* 32 SW. L.J. 1, 5 (1978) (harmful product damaging only itself irrelevant to tort).

91. *See* Comment, *Strict Liability: Recovery of "Economic" Loss,* 13 IDAHO L. REV. 29, 40-41 (1976) (some courts allow tort recovery for only collateral property damage and personal injury); Note, *Economic Losses and Strict Products Liability: A Record of Judicial Confusion Between Contract and Tort,* 54 NOTRE DAME LAW. 118, 118 (1978) (majority of courts restrict economic loss recovery to warranty law).

92. *See* Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., 626 F.2d 280, 289 (3d Cir. 1980). Applying strict liability in economic loss areas would supersede § 2-316 of the UCC. *See id.* at 289. Section 2-316 provides a warranty will not be negated or limited where such construction is unreasonable. *See* U.C.C. § 2-316(1) (1978); *see also* Clark v. International Harvester Co., 581 P.2d 784, 793 (Idaho 1978) (legislatures expressed intent in adopting UCC; court must accommodate common law evolution of tort with UCC principles). *See generally* U.S. DEP'T OF JUSTICE, THE ATTORNEY GENERAL'S ASBESTOS LIABILITY REPORT TO THE CONGRESS 100, 106 (Sept. 21, 1981) (noting courts application of UCC preclusion to recovery).

93. *See* Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1173 (3d Cir. 1981) ("items for which damages are sought . . . are not determinative"); Comment,

of the risk the defective product poses when determining whether the injury is compensable as property damage in tort.[94] In allowing recovery in tort for damages confined to the product itself, courts have noted a distinction between the type of damage to a defective product that reflects mere economic loss and the type of injury that amounts to harm traditionally compensable in tort.[95] Such a distinction has direct application to asbestos school litigation. Schools could seek recovery for the cost of removing and replacing the asbestos material based on the risk associated with the asbestos product rather than defects in value or quality.[96] In recent decisions, the Alaska Supreme Court has noted a distinction between a merely defective product and a product creating a risk, when determining if compensation for the product lies in tort.[97]

In *Cloud v. Kit Manufacturing Co.*,[98] the Alaska Supreme Court held that fire damage to the plaintiff's mobile home caused by flammable rug padding reflected property damage recoverable in tort rather than economic loss for the product itself.[99] In distinguishing property damage from economic loss,

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Strict Liability: Recovery of "Economic" Loss, 13 IDAHO L. REV. 29, 43 (1976) (strict liability frustrated when damages awarded based on type of damage incurred).

94. *See* Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1173 (3d Cir. 1981). It is important to note that the textual discussion focuses upon compensating for the injury to the product itself. Some courts, bound by precedent holding that economic loss is not recoverable under strict liability in tort, classify injury to the product itself as property damage in order to facilitate its recovery in tort. *See* Morrow v. New Moon Homes, 548 P.2d 279, 285-86 (Alaska 1976) (economic loss not recoverable under strict liability in tort); Cloud v. Kit Mfg. Co., 563 P.2d 248, 251 (Alaska 1977) (damage confined to defectively dangerous product constituted property damage recoverable under strict liability in tort). Whether the damage is classified as economic loss or property damage, the issue focuses upon recovery for damage confined to the defective product.

95. *See* Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1169 (3d Cir. 1981) (defects of quality are economic, whereas dangerous defects are physical injury); Northern Power & Eng'g Corp. v. Caterpillar Tractor Co., 623 P.2d 324, 328 (Alaska 1981) (distinction between products failing to meet economic expectations and products defective because of creation of hazardous condition).

96. *Cf.* W. PROSSER & W.P. KEETON, THE LAW OF TORTS § 95, at 677-78 (5th ed. 1984). A recovery would be based on the "product hazard" of the asbestos material. *See id.* at 677.

97. *See, e.g.,* Shooshanian v. Wagner, 672 P.2d 455, 463 (Alaska 1983) (distinction between defective product and damages resulting in injury); Northern Power & Eng'g Corp. v. Caterpillar Tractor Co., 623 P.2d 324, 328 (Alaska 1981) (difference between products which fail to meet economic expectations and which break down in foreseeably hazardous manner); Cloud v. Kit Mfg. Co., 563 P.2d 248, 251 (Alaska 1977) (direct property damage versus internal breakage, and depreciation).

98. 563 P.2d 248 (Alaska 1977).

99. *See id.* at 251. The plaintiffs brought suit against Kit after the rug pad ignited and caused their home to burn. *See id.* at 249. The plaintiffs alleged that the rug pad was defective because of its flammable nature. Further, the plaintiffs alleged that the mobile home itself was also a defective product. *See id.* at 249.

the court noted that "sudden and calamitous" damage will usually result in property damage while "deterioration, internal breakage and depreciation" will reflect economic loss.[100] The court based its decision on the policy that a manufacturer should bear the risk of an unsafe product it markets.[101] The court reaffirmed the *Cloud* distinction between merely defective and dangerous products in *Northern Power & Engineering Corp. v. Caterpillar Tractor Co.*[102] In *Northern,* the court refused to classify damage to a malfunctioning diesel generator as property damage because the defective product failed to create a situation potentially hazardous to other property or persons.[103] Because contract law concerns reasonable economic expectations, and tort law concerns the safety of products and the care required from a manufacturer, strict liability in tort is employed only when the defective product endangers person or property.[104] The court added that recovery in tort is permissible even if the damage is confined to the product itself as long as the potential danger exists.[105]

In classifying economic loss and property damage, the "lemon" versus unsafe product distinction adopted by the Alaska court is analogous to asbestos school litigation. School boards are not seeking recovery for abatement because the asbestos product is a lemon, in that the products fail to insulate or retard fire properly.[106] Rather, schools are seeking recovery for the cost of removal and replacement because the product is unsafe and poses

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100. *See id.* at 251. The *Cloud* court noted that a distinction between economic loss and property damage is not always clear cut, especially when the action seeks recovery for cost of replacement or repair to the defective product itself. *See id.* at 251. In distinguishing between economic loss and property damage, courts should heed the purposes underlying UCC warranty actions. The court distinguished *Cloud* from an earlier case involving mobile home defects, characterizing the earlier owner's home as a "lemon," while the Clouds were exposed to an unsafe product. *See id.* at 251.

101. *See id.* at 250. The court, in imposing liability on the manufacturer, quoted from its earlier decision in Clary v. Fifth Ave. Chrysler Center, 454 P.2d 244, 248 (Alaska 1969): " 'The purpose of imposing strict liability on the manufacturer and retailer is to insure that the cost of injuries resulting from the defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves.' " *See id.* at 250.

102. 623 P.2d 324, 329-30 (Alaska 1981).

103. *See id.* at 329-30. The *Northern* court expanded upon the *Cloud* distinction, stating that "sudden and calamitous" damage is not necessary for property damage, although property damage is likely to be found in such instances. *See id.* at 328 & n.5. The court further described the distinction between economic loss and property damage as the difference between "disappointed users and endangered ones." *See id.* at 328.

104. *See id.* at 328.

105. *See id.* at 329. The defective product itself must create the potential danger. *See id.* at 329.

106. *See* Cinnaminson Township Bd. of Educ. v. United States Gypsum Co., 552 F. Supp. 855, 859 (D.N.J. 1982) (problem other than product's failure in suit for removal of asbestos product).

a health hazard.[107] In such a situation, the principles of tort should govern compensation.[108] Further, assuming that schools can prove that asbestos exposure is hazardous, recovery in tort is warranted because, even though no cases of disease are reported, the potential for danger exists.[109] A recent decision of the Third Circuit includes the lemon versus unsafe product distinction, but expands to also include other factors when determining whether recovery for a defective product sounds in tort or contract.[110]

In *Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co.*,[111] the Third Circuit held that the type of damages sought, such as cost of replacement or repair, is not controlling when deciding if damage to a product allegedly caused by a hazardous defect constitutes economic loss or property damage.[112] Rather, a court must analyze interrelated factors, including "the nature of the defect, the type of risk, and the manner in which the injury arose," to determine whether recovery sounds in tort or contract.[113] The Third Circuit found that these factors control whether "the safety-insurance policy of tort" or "the expectation-bargain protection policy of warranty law" is most applicable to the claim.[114] In applying these factors, the *Pennsylvania Glass* court concluded that fire damage to a hydraulic loader, for which the plaintiff sought replacement costs, reflected property damage re-

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107. *See id.* at 859 (suit because asbestos product defect poses grave personal safety risk); *see also* County of Johnson v. United States Gypsum Co., 580 F. Supp. 284, 287-88 (E.D. Tenn. 1984) (suit by school board for recovery for alleviating dangerous condition caused by asbestos product). Both actions involved the defendants' motion to dismiss, rather than a trial on the merits. *See id.* at 287; Cinnaminson Township Bd. of Educ. v. United States Gypsum Co., 552 F. Supp. 855, 856-57 (D.N.J. 1982).

108. *See* J. FLEMMING, THE LAW OF TORTS 506 (5th ed. 1977) (tort law concerned with dangerous, not merely inferior, products).

109. *See id.* at 505-06 (plaintiff recovered costs of making dangerous product safe, thereby averting injury). *But see* W. PROSSER & W.P. KEETON, THE LAW OF TORTS § 101, at 710 (5th ed. 1984) (no apparent support for allowing tort recovery for making dangerous product safe before accident occurs).

110. *See* Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1173 (3d Cir. 1981) (enunciates factors to determine if tort applicable).

111. 652 F.2d 1165 (3d Cir. 1981).

112. *See id.* at 1173. The court identified the majority approach as determining whether an injury represents economic damage or physical damage to the defective product. *See id.* at 1173.

113. *See id.* at 1173. In developing these analytical factors, the court noted trends and principles of other courts in addressing the recovery-action issue. *See id.* at 1172. Most courts recognize that warranty principles "remain the appropriate vehicle to redress" the unfulfilled expectations of a buyer when a product's defect renders it inferior or unable to accomplish its intended function. *See id.* at 1172. Conversely, courts further recognize that a "benefit-of-the-bargain approach" is inadequate when compensating for the effects of hazardous products causing injury. *See id.* at 1172. Manufacturers are in a better position to "bear the risk" or initiate measures designed to alleviate the defects posing danger. *See id.* at 1172.

114. *See id.* at 1173.

coverable under strict liability in tort.[115]

By applying the *Pennsylvania Glass* factors to asbestos school litigation, a plaintiff could suggest that the cost for removal and replacement of the friable asbestos material is also recoverable in tort. First, a school could argue that the nature of the defect stems from a product containing asbestos and the manufacturer's failure to warn of its hazards. Second, the risk of disease and contamination of the school building illustrates the type of risk the asbestos product poses. Third, an asbestos school plaintiff could argue that injury arose in the form of an assault—a continuous invasion of hazardous asbestos fibers into the breathing air within the school.[116] Each of the *Pennsylvania Glass* factors, when applied to asbestos school litigation, demonstrates a clear alignment with the tort policy of recovery for an unreasonable risk, even though the injury may be confined to the product itself, rather than recovery for unfulfilled expectations of contract.[117] Recovery in tort based upon loss of the product itself due to dangerous defects is important in asbestos school litigation. Although the asbestos product may be found hazardous, a court may be unwilling to find a personal injury since no cases of disease are reported.[118] Further, the court may conclude that removing and replacing the asbestos does not damage collateral property.[119] Thus, recovery for the product itself remains an important alternative.

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115. *See id.* at 1174-75. Caterpillar argued that since the damage was confined to the product only, economic loss applied. *See id.* at 1175. The court, however, established that the nature of the defect, faulty design failing to contain a fire, reflected a hazard falling within tort policy that a manufacturer bear the risk of dangerous products. *See id.* at 1174-75. The fire risk posed by the defect is also usually compensated in tort. *See id.* at 1174. In contrast, *Pennsylvania Glass* did not allege that the loader was unfit for its intended purpose or of poor quality. *See id.* at 1175. Such allegations are usually associated with contract-warranty recovery. *See id.* at 1175. In dismissing the applicability of warranty recovery, the court stated that purchasers are not required to bargain for safe products because the law imposes a duty on manufacturers to provide safe items. *See id.* at 1175.

116. *See id.* at 1173 (naming factors to analyze when determining whether tort or contract governs); *see also* Memorandum by Michael E. Gurley, Attorney at Law, 3 (under cover letter addressed to John P. Kincade dated Jan. 15, 1985) (Mr. Gurley currently represents the State of Ohio and the Ohio Department of Mental Health as special state counsel in a suit against asbestos manufacturers for abatement costs for a state mental hospital).

117. *See* Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1172-73 (3d Cir. 1981) (manufacturers better able to bear risk of dangerous product, therefore, tort imposes duty whether hazard ultimately impacts people, other property, or product itself).

118. *See* Schulte & Stutz, *Experts Say Asbestos Harm Unlikely in Schools,* Dallas Morning News, Oct. 31, 1982, at 30A, col. 1 (no case of disease from school asbestos exposure established). *But see* McCormick, *Asbestos,* 171 AM. SCH. BOARD J., Apr., 1984, at 33 (health authorities realize people will die from asbestos exposure in schools).

119. *See* Arizona v. Cook Paint & Varnish Co., 391 F. Supp. 962, 971 (D. Ariz 1975) (removal of dangerously flammable insulation mere consequential damage flowing from product's failure to meet expectations), *aff'd,* 541 F.2d 226 (9th Cir. 1976), *cert. denied,* 430 U.S. 915 (1977).

C. *Recovery in Texas*

An asbestos school plaintiff in Texas, however, does not possess the benefit of recovering for damage confined to the product itself in tort strict liability.[120] To recover under Texas law, a school must demonstrate that the asbestos product caused physical injury other than to the product itself.[121] This requirement emanates from developments peculiar to Texas products liability law. In *Nobility Homes of Texas v. Shivers,*[122] the Texas Supreme Court refused to allow recovery in tort strict liability for qualitative defects of a mobile home which a jury determined were not unreasonably dangerous.[123] *Nobility Homes* is consistent with the general rule that mere economic loss is not recoverable in tort.[124] Although a jury did find that the absence of an engine lock plate rendered a crop-dusting plan unreasonably dangerous, the supreme court, in *Mid Continent Aircraft Corp. v. Curry County Spraying Services,*[125] refused to allow recovery for damage to the plane in tort strict liability.[126] Adopting Dean Keeton's argument that damage confined solely to the product is irrelevant to tort policy, the court concluded this type of damage is a loss of the "benefit-of-the-bargain."[127]

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120. *See* Mid Continent Aircraft Corp. v. Curry County Spraying Serv., 572 S.W.2d 308, 313 (Tex. 1978) (when loss to product itself, legislature has provided for compensation in law of sales and contract).

121. *See* Signal Oil & Gas Co. v. Universal Oil Prods., 572 S.W.2d 320, 325 (Tex. 1978). When loss to the product also involves collateral property damage, recovery under tort strict liability is available. *See id.* at 325.

122. 557 S.W.2d 77 (Tex. 1977).

123. *See id.* at 80. A jury found the mobile home was defective as to materials and workmanship and was not fit for its intended use. *See id.* at 78. The jury further determined that the defects were not unreasonably dangerous, which was a necessary prerequisite to allowing recovery in tort strict liability. *See id.* at 79-80.

124. *See, e.g.,* Morrow v. New Moon Homes, 548 P.2d 279, 285 (Alaska 1976) (qualitative defect recoverable under UCC); Seely v. White Motor Co., 403 P.2d 145, 151, 45 Cal. Rptr. 17, 23 (1965) (commercial losses not compensated under strict liability); Hiigel v. General Motors Corp., 544 P.2d 983, 989 (Colo. 1975) (strict liability in tort does not cover business or commercial loss). *But see* Santor v. A & M Karagheusian, Inc., 207 A.2d 305, 311-12 (N.J. 1965) (loss to goods or other property borne by maker who put them in stream of commerce); Iacono v. Anderson Concrete Corp., 326 N.E.2d 267, 270-71 (Ohio 1975) (recovery for defective concrete actionable in tort strict liability); City of La Crosse v. Schubert, Schroeder & Assocs., 240 N.W.2d 124, 127 (Wisc. 1976) (strict liability in tort available for pure economic loss claim).

125. 572 S.W.2d 308 (Tex. 1978).

126. *See id.* at 312-13. Curry's plane, purchased from Mid Continent, crashed while spraying insecticide. *See id.* at 310. The pilot escaped injury, and damage was limited to the plane itself. *See id.* at 310.

127. *See id.* at 312. The *Mid Continent* court characterized the factual situation as involving an unreasonably dangerous product causing injury only to itself, not persons or property. *See id.* at 311. The court reasoned that the UCC, adopted by the Texas Legislature, defines the rights of parties to a sales transaction and should not be "nullified" by expanding

Justice Pope dissented and argued that the policy reasons of deterring dangerous conduct and imposing a duty of care upon a seller are the same in an action involving a dangerous product, whether the injury is manifested in a person, other property, or the product itself.[128] With *Mid Continent,* Texas stands as the only jurisdiction to expressly refuse to allow recovery in tort for injury solely to the product, even when such injury is caused by an unreasonably dangerous defect of the product.[129]

On the same day as *Mid Continent,* however, the court, in *Signal Oil & Gas Co. v. Universal Oil Products,*[130] held that recovery for a dangerously defective product may be had in a tort strict liability action when such defect also causes collateral property damage.[131] Thus, in order to recover in Texas under tort for the cost of removing and replacing the asbestos product, an asbestos school plaintiff must demonstrate injury to person or property other than the product itself. Collateral property damage, incurred in removing the asbestos material, is perhaps the stronger allegation since it is more readily proven than a personal injury, which a court could determine has not yet manifested itself.

VI. CONCLUSION

Although asbestos has provided great utility in construction, it has also provided great danger. The danger to school children, teachers, and employees becomes clearer as more information concerning hazards of asbestos exposure becomes known. Once the presence of asbestos materials within a school is established, it becomes the duty of school officials to seriously con-

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the doctrine of strict liability in tort. *See id.* at 312. Further, the only loss suffered, cost of repair and loss of use, is limited to that which was involved in the sales transaction. *See id.* at 313. *But see* Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1173 (3d Cir. 1981) (type of loss not determinative, but rather "nature of defect, type of risk, and manner in which injury arose").

128. *See* Mid Continent Aircraft Corp. v. Curry County Spraying Serv., 572 S.W.2d 308, 317 (Pope, J., dissenting). Justice Pope reasoned that removing "property" from strict liability coverage is an arbitrary distinction. *See id.* at 317. Further precedent has held that the absence of a finding of "unreasonably dangerous" precluded recovery in tort, thus, an unreasonably dangerous finding should be compensated in tort. *See id.* at 315.

129. *See* Blant & Watson, *Property Damage Caused By Defective Products: What Losses Are Recoverable?,* 9 WM. MITCHELL L. REV. 1, 14 (1984) (Texas only state refusing recovery for injury to product, even if resulting from unreasonably dangerous defect); Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co., 652 F.2d 1165, 1172 n.22 (3d Cir. 1981) (only one state rejects theory that damage to product itself resulting from hazardous defect recoverable in tort).

130. 572 S.W.2d 320 (Tex. 1978).

131. *See id.* at 325. Damages to the product, when co-existing with other property damage, are recoverable under strict liability in tort or as consequential damages under the Texas Business and Commerce Code § 2.715. *See id.* at 325; *see also* TEX. BUS. & COM. CODE ANN. § 2.715 (Tex. UCC) (Vernon 1968).

sider appropriate hazard abatement measures. School officials must also consider how to best cover the cost of abatement procedures. If recovery from an asbestos manufacturer, through litigation, is attempted, the issues of the manufacturer's knowledge of the asbestos hazard in schools, the corresponding duty to warn, the existence of an injury in fact, and the recovery for damages under tort are certain to arise. Although these issues will be resolved at trial, evidence and principles of law and policy suggest that each resolution should favor the schools.

Relevant evidence suggests that asbestos manufacturers, at least, should have known of the hazard from exposure in schools before they began warning in the mid-1960's. Further, because of asbestos' carcenogenic propensities which can be triggered by low-level exposure, a definite redressable injury does exist. Finally, the asbestos injury emanates from a dangerous, hazardous product, exposing a risk to person and property. For these reasons and others, schools should recover for the damage in tort, whether the damage is classified as personal, collateral property, or property damage confined to the asbestos material itself.