

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA

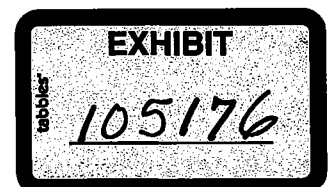
IN RE: ASBESTOS-RELATED)
LITIGATION) ALLIED-SIGNAL INC.'S OBJECTIONS
) AND ANSWERS TO PLAINTIFFS'
) FIRST STANDARD SET OF
) INTERROGATORIES TO DEFENDANTS
(FRICTION PRODUCT CASES)) IN FRICTION PRODUCT CASES

NOW COMES defendant Allied-Signal Inc. (hereinafter "Allied-Signal") and responds to the Plaintiffs' First Standard Set of Interrogatories to Defendants in Friction Product Cases as follows:

INTRODUCTORY STATEMENT

On April 1, 1985, The Bendix Corporation was merged into Allied Corporation and ceased to exist as a legal entity. On September 30, 1987, Allied Corporation was merged into Allied-Signal Inc. and ceased to exist as a legal entity. The Bendix Corporation was incorporated in the State of Delaware and maintained its principal place of business in the State of Michigan. Allied Corporation was incorporated in the State of New York and maintained its principal place of business in the State of New Jersey. Allied-Signal Inc. is incorporated in the State of Delaware and maintains its principal place of business in the State of New Jersey.

Allied-Signal Inc. is the successor in interest to Allied Corporation which, in turn, was the successor in interest to The Bendix Corporation. The Automotive Sector of Allied-Signal Inc. is



the business unit within Allied-Signal Inc. which continues the "Bendix" line of automotive friction products.

The following responses to Plaintiff's Interrogatories are based upon: (a) information supplied by employees of The Bendix Corporation or documents in the possession of The Bendix Corporation through March 31, 1985; (b) information or documents acquired or known to employees of the Automotive Sector of Allied Corporation from April 1, 1985, through September 29, 1987; and (c) information or documents acquired by or known to employees of the Automotive Sector of Allied-Signal Inc. since September 30, 1987.

In its responses this party will be identified as "Allied-Signal" with the understanding that such term refers to: (a) The Bendix Corporation prior to April 1, 1985; (b) the Automotive Sector of Allied Corporation from April 1, 1985, to September 29, 1987; and (c) the Automotive Section of Allied-Signal Inc. since September 30, 1987. As the context of particular questions may require, the automotive friction products manufactured by Allied-Signal and its predecessors will be described by reference to their registered trademark, "Bendix." Questions directed to matters of corporate identity (e.g., state of incorporation, principal place of business, etc.) are answered as they apply to Allied-Signal Inc.

INTERROGATORIES

1. As to the person answering these interrogatories,
state:
(a) Name;

- (b) Title or position with defendant;
- (c) Business address;
- (d) Residence address;
- (e) Length of time employed by defendant including dates.

ANSWER: (a) These interrogatories are answered by Allied-Signal, a corporation.
 (b) - (e) Not applicable.

2. State the following concerning this defendant:

- (a) Full and correct name;
- (b) Principal place of business;
- (c) State of incorporation;
- (d) Date of incorporation, and name of corporation;
- (e) Is this defendant authorized to transact business in the State of North Carolina? If so, state the date such authority was first issued and last renewed;
- (f) Does this defendant have an agent, representative or place of business in North Carolina? If so, state the name and address of such agent, representative or place of business.

ANSWER: (a) Allied-Signal Inc.
 (b) Morris Township, New Jersey.
 (c) Delaware.
 (d) May 13, 1985.
 (e) Yes; December 19, 1986
 (f) CT Corporation System; 3101 Petty Road, Durham, North Carolina 27707

3. Has this defendant been sued under its correct name? If not, state the correct legal name of the defendant and provide the information requested in No. 2, above, concerning the defendant as correctly named.

ANSWER: Objection; this interrogatory is directed towards individual cases and not toward cases generally pending in the Eastern District of North Carolina. Without waiving the foregoing objection, see the introductory statement and answer to Interrogatory No. 2, above.

4. Has the defendant, during the period of 1935 through the present, or any portion thereof, ever designed, manufactured, processed, sold, distributed or relabeled brakelinings and clutches or other friction products containing asbestos or asbestos fibers?

ANSWER: Yes.

5. If your answer to any part of No. 4 is in the affirmative, then give the brand and trade name of the product(s), and the year the defendant designed, sold, distributed, processed, manufactured or relabeled such product(s), being specific as to the inclusive dates for each product in each category.

ANSWER: Allied-Signal or its predecessors have manufactured, sold and distributed the following asbestos-containing friction products:

Brake lining segments:

"Bendix"	1939 to present
"Marshall"	1939 to present
"Bulls-eye"	1939 to 1948
"SL"	1939 to 1971
"WM"	1939 to 1971
"Eclipse"	1939 to 1987
"Master"	1945 to 1987
"EDF"	1946 to 1987
"FK"	1955 to 1987
"Friction King"	1960 to 1987

Disc brake pads:

"Bendix"	1963 to present
"Friction King II"	1979 to 1987 (asbestos-free wearing surface)

Brake blocks:

"Bendix"	1948 to 1988
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Clutch facings:

"Bendix"	1975 to 1978 (sold only to the Chicago, Illinois, plant of Borg and Beck)
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6. For each such asbestos-containing friction product manufactured, processed, sold, relabeled and/or distributed by you from the date of initial manufacture etc. to 1982, state:

- (a) The asbestos content by weight of each product for each year;
- (b) The type of asbestos fiber used in each product, i.e., chrysotile, amosite, crocidolite or admixtures for each year;
- (c) The applications to which such product was to be put including;
- (d) The intended uses of such product;
- (e) The mining or milling concern from which the raw asbestos fiber was obtained.

- ANSWER:
- (a) Allied-Signal objects to this interrogatory because the composition of its friction products is a trade secret and, therefore, proprietary information. Without waiving that objection, Allied-Signal states that over the years, motor vehicle manufacturers have made changes in vehicle design (weight, chassis length, engine performance, etc.) and in brake performance criteria (noise, durability and stopping distance limits) which required modifications in product formulations to meet the changed criteria. As a result, the percentage of processed chrysotile asbestos fiber in asbestos-containing brake linings and disc brake pads varies depending on the composition of a particular item but, on the average, is approximately 50% (by weight). The percentage of processed chrysotile asbestos fiber in asbestos-containing brake blocks varied, depending upon the composition of a particular item but, on average, was approximately 35% (by weight). The percentage of processed chrysotile asbestos fiber in asbestos-containing clutch facings was 44% (by weight). Brake linings and disc brake pads also contain a resin binder system and various friction modifiers and fillers which encapsulate the processed chrysotile asbestos fibers. Asbestos-containing clutch facings (manufactured between 1975 and 1978) and asbestos-containing brake blocks (manufactured between 1948 and 1988) also contained a resin binder system and various friction modifiers and fillers which encapsulated the processed chrysotile asbestos fibers.
- (b) Processed chrysotile asbestos fiber which was purchased from others.
- (c) - (d) Brake linings, disc brake pads and brake blocks: to stop or slow motor vehicles. Clutch facings: to connect or disconnect a driving or a driven part of a mechanism smoothly.
- (e) Canadian Johns-Manville Ltd. or
JM Asbestos Sales, Inc.
Asbestos, Quebec J1T3N2
Processed chrysotile asbestos fiber
1939 to present
- Vermont Asbestos Group
Hyde Park, Vermont 05655
Processed chrysotile asbestos fiber
1975 to present
- LAB Chrysotile, Ltd.
P. O. Box 459

Thetford Mines, Quebec G6G5T5
Processed chrysotile Asbestos fiber
1986 to present

Lake Asbestos (Lac d'Amiante du Quebec L'tee)
120 Broadway
New York, N.Y. 10005
Processed chrysotile asbestos fiber
1967 to 1986

The Ruberoid Co.
New York, N.Y.
Processed chrysotile asbestos fiber
1945 to 1975

Bell Asbestos Mines Ltd.
P. O. Box 99
Thetford Mines, Quebec G6G5S4
Processed chrysotile asbestos fiber
1973 to 1983

7. Please describe in detail the type of packages in which the defendant has sold asbestos friction products, listing the dates each type of package was used, a physical description thereof, a description of any printed material or trademarks that appeared thereon and a description of any warning labels that appeared thereon.

ANSWER: The products are packaged and distributed in chipboard or corrugated cardboard cartons or boxes. Although Allied-Signal does not believe that there is any health hazard associated with the proper use of its friction products, since 1973, in recognition of OSHA regulations concerning asbestos exposure, a warning label has been placed on all cartons and boxes of asbestos-containing friction material products shipped to customers. Allied-Signal and its predecessors have complied with OSHA warning regulations even though it has never been determined that exposure to friction products results in an exposure to asbestos fibers equal to or in excess of OSHA exposure limits for asbestos fibers.

From October, 1973, to August, 1986, the warning label read as follows:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
BREATHING ASBESTOS MAY CAUSE
SERIOUS BODILY HARM

From September, 1986, until the present, the warning label reads as follows:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

8. State whether defendant manufactured asbestos containing friction products for a company but placed said company's labels, logos or containers on said products, and if so, list each company.

ANSWER: Certain products manufactured for sale to original equipment customers are marked pursuant to OEM specifications.

9. If the answer to the preceding Interrogatory is in the affirmative, state when the defendant manufactured such products.

ANSWER: Objection. This interrogatory is overly broad and burdensome. It is not possible for Allied-Signal to answer this interrogatory unless it is limited to a specific year, make and model of motor vehicle.

10. Have any of the products listed in Interrogatory 5 above been altered in chemical composition or asbestos type or content since first being marketed?

ANSWER: Objection. See response to Interrogatory 6(a) and (b), above. Processed chrysotile fiber is the only type of asbestos that has been used.

11. If so, please state:

- (a) The trade name of each such product.
- (b) The date each such product was altered.
- (c) The nature of the alternation.
- (d) The reason for the alteration.

ANSWER: Objection. See response to Interrogatory No. 10, above.

12. Please describe and identify all tests and experiments conducted by you to determine whether or not asbestos fibers contained within your asbestos containing friction products would become air-borne upon their application or use by motor vehicle mechanics.

ANSWER: Allied-Signal objects to this Interrogatory because the question seeks irrelevant information and is not calculated to lead to the discovery of relevant, material or admissible evidence. The Interrogatory is overly broad, unduly burdensome and unlimited in scope. Without waiving those objections, Allied-Signal states that the processed chrysotile asbestos fiber in its friction products is encapsulated in a resin binder matrix and, as a result, does not present a health hazard. The heat generated during the braking

process converts the processed chrysotile asbestos fiber in friction materials into a harmless substance known as forsterite or olivine. Prior to the issuance of OSHA regulations concerning asbestos, published studies indicated that exposure to or the use of friction materials did not present a health risk. Since the issuance of OSHA asbestos regulations, scientific research has consistently demonstrated that time-weighted exposures of brake repair workers to asbestos are below prescribed OSHA limits.

From May, 1971, to March, 1973, The Bendix Corporation, under contract with the Environmental Protection Agency, Office of Air and Water Programs, conducted extensive research into the survivability of asbestos during the braking process. It was found that the great majority of asbestos contained in brake linings was heated to a temperature high enough to cause its chemical conversion to harmless forsterite or olivine. On average, 99.75% of the asbestos in brake linings was converted. Samples of wear debris resulting from the braking process were analyzed and found to contain, on average, only 00.25% asbestos. To provide a systematic, independent check on that analysis, the EPA Project Officer entered into a separate contract with Battelle Columbus Laboratories to analyze the wear debris. Battelle Laboratories found that, on average, the wear debris resulting from the braking process contained only 00.17% asbestos.

13. Please state the dates of all tests and experiments described in Interrogatory 12 and the results and conclusions of each test and/or experiment.

ANSWER: See answer to Interrogatory No. 12, above.

14. Did defendant make any design changes as a result of such tests and/or experiments?

ANSWER: No, see answer to Interrogatory No. 12, above. In addition, research conducted by others has demonstrated that all time-weighted exposures of brake repair workers are within prescribed OSHA limits.

15. If so, please state:

- (a) The nature of the change made.
- (b) The name, address and job classification of each person in charge of making a change.

ANSWER: Not applicable.

16. Has defendant, at any time, published and/or distributed any brochures, sales literature, pamphlets or other written materials (aside from any caution labels on containers) of any kind or character that contain any warnings, cautions, caveats or directions concerning the possibility of injury resulting from the use of the products listed in Interrogatory 5 above?

ANSWER: Asbestos-containing friction products manufactured by Allied-Signal contain processed chrysotile asbestos fibers that are encapsulated or locked into the product itself. Together with various friction modifiers and fillers, the asbestos fibers are bound together with a resin binder system and then baked at a temperature in excess of 350 degrees. Exposure to or the proper use of Allied-Signal's friction products does not pose a health hazard. Although Allied-Signal does not believe that there is any health hazard associated with the proper use of its friction products, since 1973, in recognition of OSHA regulations concerning asbestos exposure, a warning label has been placed on all cartons and boxes of asbestos-containing friction products shipped to customers. In 1977 The Bendix Corporation first mailed to its distributors and rebuilder customers copies of the Friction Materials Standards Institute's Brake Lining and Clutch Facing Automotive Data Book which contained a section entitled "Recommended Procedures For Reducing Asbestos Dust During Brake Servicing." Since 1977, subsequent editions of the FMSI Data Book (also containing a section entitled "Recommended Procedures for Reducing Asbestos Dust During Brake Servicing") have been distributed to customers by The Bendix Corporation and its successors (Allied Corporation's Automotive Sector and Allied-Signal Inc.'s Automotive Sector). In March, 1979, The Bendix Corporation, by means of a general bulletin, mailed to its distributors and rebuilder customers a Friction Materials Standards Institute publication (dated October, 1978) entitled "Friction Materials Work Practices Guide." During 1984 and 1985 Allied Corporation's Automotive Sector mailed "Product Fact Sheets" to all customers. Beginning July 30, 1986, Allied Corporation's Automotive Sector distributed a Material Safety Data Sheet to all customers. Beginning March 1, 1988, Allied-Signal Inc.'s Automotive Sector distributed a Material Safety Data Sheet to all customers.

17. If so, please state:
 - (a) The wording of each such warning, etc.
 - (b) A description of each such printed material.
 - (c) The method used to distribute the warning etc. to persons who are likely to use or be in contact with the products.
 - (d) The date each such warning, etc. was issued.
 - (e) The name, address and job classification of each person who presently has possession of the above described documents.
 - (f) If you will without a request for production, please attach a copy of such warning, etc.
 - (g) State whether any industrial psychologists or human factors engineers were consulted prior to utilizing such warnings, cautions, etc.

ANSWER: See answer to Interrogatory No. 16, above.

18. From 1930 until the present, did the asbestos friction products sold, mined, manufactured or distributed by you, contain any warning, caution, caveat or other statement on the product or its packaging.

ANSWER: Yes.

19. If the answer to the preceding interrogatory is in the affirmative, please state:

- (a) When did the warning first appear?
- (b) What was the precise wording of the warning when it first appeared?
- (c) Was the warning altered, amended or changed in any manner? If so, how and when?
- (d) Where was the warning located on the product or packaging?
- (e) When did you become aware that warnings placed on the products distributed by other defendants? State the reason warnings of the other defendants were not placed on your products.
- (f) State the manner in which your product is shipped and the type of container it is shipped in to retailers.
- (g) State whether any industrial psychologists or human factors engineers were consulted prior to utilizing such warnings, cautions, etc.

ANSWER: See answer to Interrogatory No. 7, above. To the best of Allied-Signal's knowledge, its predecessor, The Bendix Corporation, was the first manufacturer to place a warning on asbestos-containing automotive friction products.

20. When was the first time you received notice that any person, including any of your employees, was claiming an injury as the result of using any asbestos-containing products manufactured and/or sold by your company?

ANSWER: Objection. Allied-Signal is informed and believes that none of the plaintiffs in the cases pending in the Eastern District of North Carolina were employed or present in any of its friction product manufacturing plants at any time. Events occurring in those plants during the mass production of friction materials bear no equivalence to the conditions experienced by an end-user of individual units of finished automotive friction products. Allied-Signal objects to this interrogatory because the question seeks irrelevant information and is not calculated to lead to the discovery of relevant, material or admissible evidence. Without waiving those objections, the first workers' compensation claim

related to an alleged asbestos exposure in The Bendix Corporation's friction material manufacturing plants was filed on November 13, 1978.

21. For each such injury described in the preceding interrogatory that you received notice of or a claim for prior to 1972, please list:

- (a) The name and address of each claimant.
- (b) The date of notice of each claim.
- (c) A description of the claim, i.e., workmen's compensation, or a third party liability action.
- (d) The type of injuries allegedly sustained.
- (e) The name and address of each attorney who represents individuals making such claims.
- (f) The style and court number of each claim.
- (g) The resolution of each claim that has been settled or taken to judgment.
- (h) The custodian of the records that relate to the claim.

ANSWER: None.

22. When was the first time you received notice that any person, including any of your employees, was claiming an injury as the result of using asbestos-containing friction products manufactured and/or sold by your company?

ANSWER: Objection. Allied-Signal is informed and believes that none of the plaintiffs in the cases pending in the Eastern District of North Carolina were employed or present in any of its friction product manufacturing plants at any time. Events occurring in those plants during the mass production of friction materials bear no equivalence to the conditions experienced by an end-user of individual units of finished automotive friction products. Allied-Signal objects to this interrogatory because the question seeks irrelevant information and is not calculated to lead to the discovery of relevant, material or admissible evidence. Without waiving those objections, the first workers' compensation claim related to an alleged asbestos exposure in The Bendix Corporation's friction material manufacturing plants was filed on November 13, 1978.

23. For each such injury described in the preceding interrogatory that you received notice of or a claim for prior to 1972, please list:

- (a) The name and address of each claimant.
- (b) The date of notice of each claim.
- (c) A description of the claim, i.e., workmen's compensation, or a third party liability action.
- (d) The type of injuries allegedly sustained.

- (e) The name and address of each attorney who represents individuals making such claims.
- (f) The style and court number of each claim.
- (g) The resolution of each claim that has been settled or taken to judgment.
- (h) The custodian of the records that relate to the claim.

ANSWER: None.

24. During the years 1935-1982 did you ever sell raw asbestos fiber or a friction product containing asbestos fibers to any of the co-defendants?

ANSWER: Objection; this Interrogatory is directed towards individual cases and not toward cases generally pending in the Eastern District of North Carolina. Without waiving the foregoing objection, Allied-Signal never sold raw asbestos fiber; further, see answers to Interrogatory Nos. 5 and 8, above.

25. If so, for each co-defendant, in what years and in what quantities did you make such sales?

ANSWER: Objection; see objection and response to Interrogatory No. 24, above.

26. Does defendant have policies of insurance that might cover the claims that have been made by plaintiff Richard C. Bell?

ANSWER: Objection; this interrogatory seeks information which is not common to most or all of the cases pending in the Eastern District of North Carolina, and therefore, this interrogatory is not within the scope of discovery contemplated by the pre-trial orders for coordination.

27. If so, please list the name of each insurance carrier who may have coverage, the amount of such coverage, the dates of each such policy and the time periods of coverage.

ANSWER: Objection; see objection to Interrogatory No. 26, above.

28. Did you receive any reports or communications from your workmen's compensation insurance carrier or products liability insurance carrier with regard to the hazards incident to use of asbestos containing products? If so, please state who had possession of said reports, listing for each such report the respective insurance company, its address, and the agent signing such correspondence and attach copies to your answers.

ANSWER: Objection; see objections to Interrogatory Nos. 20 and 26, above. Without waiving the foregoing objection, Allied-Signal responds that it is unaware of any such information.

- (c) By whom were such recommendations and/or suggestions made?
- (d) The substance of the recommendations and/or suggestions.

ANSWER: Not applicable.

45. Please state the names of trade association periodicals to which the defendant subscribed from 1928 to the present date. State whether or not the defendant had any knowledge of any articles being printed in industry trade journals, essays, memoranda and other similar sources pertaining to the hazardous potential of asbestos and which of such articles were received by you.

ANSWER: Objection; this interrogatory seeks information which is neither relevant nor calculated to lead to the discovery of relevant evidence. Allied-Signal also objects to this interrogatory as being overly broad, unduly burdensome and unlimited in scope. The burden upon Allied-Signal in terms of cost and man-hours to respond to this interrogatory with respect to each trade association periodical to which Allied-Signal subscribed from 1928 to the present would far outweigh the benefit, if any, that said periodicals would provide.

46. Please state organizations, groups, inter-company or industrial organizations to which the defendant belongs which conducted studies or researched the relationship, if any, between exposure to asbestos fibers or products and asbestosis and cancer from 1930 to 1982.

ANSWER: Allied-Signal has neither the knowledge nor the means to determine the nature of any "studies" which unnamed "organizations" may have conducted during a 52 year period. Allied-Signal did not conduct or fund any such studies.

47. In reference to Interrogatory 46, please state:
- (a) The type or nature of the studies.
 - (b) When the studies were conducted.
 - (c) The complete results of the studies.
 - (d) The recommendations of the studies.
 - (e) The resulting implementation of the studies by defendant.
 - (f) The date when first implemented.

ANSWER: Not applicable.

48. Please state the amounts and dates spent or contributed by the defendant annually from 1936 until the present time for research specifically directed to the relationship, if any, between a motor vehicle mechanic's exposure to asbestos containing insulation products and asbestosis, lung cancer or any other pulmonary disease.

ANSWER: Objection; this interrogatory seeks information which is not common to most or all of the cases pending in the Eastern District of North Carolina, and therefore, this interrogatory is not within the scope of discovery contemplated by the pre-trial orders for coordination. Without waiving its objection, Allied-Signal responds that it will identify its witnesses prior to trial pursuant to the Federal Rules of Civil Procedure and the coordination orders pending in the Eastern District of North Carolina.

93. Describe all written documentation which will be offered upon a trial of this cause on behalf of the defendant against plaintiffs.

ANSWER: Objection; this interrogatory seeks information which is not common to most or all of the cases pending in the Eastern District of North Carolina, and therefore, this interrogatory is not within the scope of discovery contemplated by the pre-trial orders for coordination. Without waiving its objection, Allied-Signal responds that it will identify its exhibits prior to trial pursuant to the Federal Rules of Civil Procedure and the coordination orders pending in the Eastern District of North Carolina.

94. Please state if the defendant intends to assert a defense of contributory negligence. If so, state all facts on which the defendant bases its contention that plaintiffs were contributorily negligent.

ANSWER: Objection; this interrogatory seeks information which is not common to most or all of the cases pending in the Eastern District of North Carolina, and therefore, this interrogatory is not within the scope of discovery contemplated by the pre-trial orders for coordination.

95. Please state if the defendant intends to assert a defense of incurred and/or assumed risk. If so, state all facts on which the defendant bases its contention that plaintiffs incurred and/or assumed the risk.

ANSWER: Objection; this interrogatory seeks information which is not common to most or all of the cases pending in the Eastern District of North Carolina, and therefore, this interrogatory is not within the scope of discovery contemplated by the pre-trial orders for coordination.

96. Please state if the defendant intends to assert that it has not manufactured, sold, distributed, or supplied asbestos materials to North Carolina.

ANSWER: Objection; this interrogatory seeks information which is not common to most or all of the cases pending in the Eastern District of North Carolina, and therefore, this interrogatory is

not within the scope of discovery contemplated by the pre-trial orders for coordination.

97. If the answer to the preceding Interrogatory is in the affirmative, state in detail those witnesses who may be called to testify in reference to said contention.

ANSWER: Objection; this interrogatory seeks information which is not common to most or all of the cases pending in the Eastern District of North Carolina, and therefore, this interrogatory is not within the scope of discovery contemplated by the pre-trial orders for coordination. Without waiving its objection, Allied-Signal responds that it will identify its witnesses prior to trial pursuant to the Federal Rules of Civil Procedure and the coordination orders pending in the Eastern District of North Carolina.

98. Please state any product within your knowledge which could be or is being used for the same purpose as asbestos containing brake lining products, and state when it was determined that said materials could be used as a substitute for asbestos brake lining products.

ANSWER: Allied-Signal and its predecessors have manufactured and sold both asbestos-containing and asbestos-free friction products. The development of asbestos-free friction products is an ongoing evolutionary process. Without seriously compromising the critical safety function of brakes, it is not yet possible to eliminate asbestos from all friction products for all vehicular applications. This is particularly true for vehicles in the "aftermarket" where braking systems were designed initially with asbestos-containing linings or pads. Allied-Signal and its predecessors have conducted and continue to conduct research and development to design and produce asbestos-free friction products. This has been accomplished by replacing the fiber reinforcement and bulk volume characteristics of processed chrysotile asbestos fiber with chopped steel wool, iron powder, sponge iron particles and natural or man-made fibers. Asbestos-free brake blocks for super heavy-duty drum brakes (e.g., logging and mining trucks) were introduced in 1966. Asbestos-free disc brake pads for severe service applications (e.g., ambulances, police cars and taxis) were introduced in 1969. Asbestos-free disc brake pads for passenger cars and light trucks were introduced in 1971. Asbestos-free drum brake lining segments for OEM and OES passenger cars and light trucks were introduced in 1983. Asbestos-free brake blocks for heavy vehicles utilizing air brake systems (e.g., semi-trailers) were introduced in 1983. Asbestos-free motorcycle brake pads (including brake pads for all-terrain vehicles, off-road vehicles and touring models) were introduced in 1987. Asbestos-free drum brake lining segments and disc brake pads for most passenger car and light truck "aftermarket" applications were introduced in 1988. A full line of asbestos-free brake blocks for heavy vehicles was introduced in 1988.

99. Does your company manufacture or sell brake linings containing Kevlar as a substitute for asbestos? If so, when did your company first manufacture or sell such products?

ANSWER: Objection. Allied-Signal objects to this interrogatory because the composition of its friction materials is a trade secret. Without waiving the foregoing objection, Allied-Signal states that it has used Kevlar in certain product formulations and that its predecessors were marketing asbestos-free products for certain vehicular applications years before the invention of Kevlar.

100. Prior to answering these Interrogatories, have you made due and diligent search of all books, records and papers of the defendant and due and diligent inquiry of all agent and employees of the defendant with a view to eliciting all information available in this action?

ANSWER: The answers to these interrogatories were prepared pursuant to the terms of the Federal Rules of Civil Procedure and the pre-trial orders for coordination in the Eastern District of North Carolina.

101. If the answer to the preceding Interrogatory is in the affirmative, state and identify what records of books and papers were searched and state and identify what agents and employees who were questioned.

ANSWER: See response to Interrogatory No. 100, above.

102. State whether defendant owned or possessed an ownership interest in any asbestos mines. If the answer is "yes," please answer Number 103 through 112.

ANSWER: No.

103. State whether defendant's mining employees in the course of extracting asbestos from the earth were exposed to dusts other than asbestos dust.

ANSWER: Not applicable.

104. Relative to asbestos mines owned by defendant, please describe in detail the mining operation; that is, whether defendant's asbestos mines are of the "gravel pit" type -- that is, above ground, where asbestos is mined by surface method; or whether its asbestos mines are "shaft type" requiring tunnels and penetration into the earth to extract asbestos.

ANSWER: Not applicable.

105. Relative to asbestos mines, please state whether or not on any occasion defendant provided respirators to its asbestos miners.

ANSWER: Not applicable.

106. If answer to Interrogatory No. 131 is "yes," please state whether respirators were provided to all mine employees.

ANSWER: This interrogatory refers to Interrogatory No. 131, and there is no Interrogatory No. 131 in this set. Therefore, not applicable.

107. If answer to Interrogatory No. 131 is "no," please state to what mine employees respirators were provided, giving job classification.

ANSWER: This interrogatory refers to Interrogatory No. 131, and there is no Interrogatory No. 131 in this set. Therefore, not applicable.

108. Please state the type respirators provided describing in detail from the first such respirator provided through the current date if respirators are still used.

ANSWER: Not applicable.

109. Please state whether any physical examinations were given to any mine employees prior to their being furnished with respirators of any type.

ANSWER: Not applicable.

110. Were any studies or tests done at any defendant mines relative to the dangers or hazards of inhalation and/or ingestion of asbestos fibers?

ANSWER: Not applicable.

111. If answer to Interrogatory No. 136 is "yes," please attach copies of all such studies.

ANSWER: This interrogatory refers to Interrogatory No. 136, and there is no Interrogatory No. 136 in this set. Therefore, not applicable.

112. If any medical examination of any mine employees of defendant were made, did any such medical test reveal that mine employees of defendant were developing asbestosis even though their job was an "outside type job" as contrasted with a job wherein they worked in a confined or limited area?

ANSWER: Not applicable.

113. State whether defendant belonged to, or was an associate or correspondent of, the Asbestos Research Council of England.

ANSWER: No.

114. State whether defendant belonged to, or was an associate or correspondent of, the Asbestos Research Council of England.

ANSWER: No.

115. State whether defendant sold or distributed any asbestos product to English firms or corporations for any year from 1948 to 1963.

ANSWER: Objection; this interrogatory seeks information which is neither relevant nor calculated to lead to the discovery of relevant evidence. There is no evidence to indicate that any of the plaintiffs in the Eastern District of North Carolina used any asbestos product supplied by an English firm or corporation.

116. State whether defendant possessed any ownership interest in any firm or corporation involved in the mining, processing or sale of raw asbestos or products containing asbestos which were domiciled, headquartered or doing business in the British Isles for any year from 1948 to 1963.

ANSWER: No.

117. State whether any such firm or corporation possessed any ownership interest in defendant from 1948 to 1963.

ANSWER: No.

118. State whether the defendant entered into licensing agreements with any British or German concerns which manufactured products containing asbestos.

ANSWER: No.

119. If the answer to the preceding question is affirmative, list for the years 1947 to 1964:

- (a) The name of each such British or German concern;
- (b) The year the agreement was entered into and all years between 1947 and 1964 that it was in effect;
- (c) Describe the type products manufactured by such licensees including:
 - i. The per cent composition of asbestos;
 - ii. The use of the products;

iii. Whether the products were marketed in the United States.

ANSWER: Not applicable.

120. State whether the defendant at any time between 1945 and 1970 had an International Division and if yes, state the name of said Division and its years of operation.

ANSWER: Objection; this interrogatory seeks information which is neither relevant nor calculated to lead to the discovery of relevant evidence.

121. If your company, or your predecessor ever devised a brake lining product which does not contain asbestos, state what prompted your company to devise such brake lining product not containing asbestos.

ANSWER: See answer to Interrogatory No. 98, above.

122. Has such brake lining not containing asbestos performed satisfactorily; that is, is such brake lining suitable for the purpose for which it is to be used?

ANSWER: Allied-Signal objects to this Interrogatory because the question rests upon several incorrect assumptions of fact. The question incorrectly assumes that all friction materials are alike, generically applicable to any or all vehicles regardless of original brake system design, and that "one-for-one" substitutes for asbestos exist. In fact, friction materials are distinct compounds, formulated for specific vehicular applications, and no single "one-for-one" substitute for asbestos has yet been discovered. The ingredients used in friction materials depend upon the design parameters of the vehicle into which the friction materials are to be incorporated. Factors such as weight, chassis length, engine performance, stopping distance and type of braking system (all of which are established by motor vehicle manufacturers, not by Allied-Signal) will determine the type of friction material that works best in a specific motor vehicle. The ultimate decision to use a particular friction material in a specific motor vehicle is made by the vehicle manufacturer, not by Allied-Signal. After years of research asbestos-free friction materials have been developed that do perform satisfactorily in those applications for which such materials have been developed. Without seriously compromising the critical safety function of brakes, it is not yet possible to eliminate asbestos from all friction materials for all vehicular applications. This is particularly true for vehicles in the "aftermarket," where braking systems were designed initially with asbestos-containing linings or pads.

123. Give the trade names of your brake lining products which do not contain asbestos, and state fully what such insulation contains.

ANSWER: Objection. Allied-Signal objects to this interrogatory because the composition of its friction materials is a trade secret and constitutes proprietary information. Without waiving the foregoing objection, see response to Interrogatory No. 5, above, for trade names.

124. State the decade that there first existed, for commercially feasible purposes, manufacturing technology to combine chemicals and non-asbestos minerals into a brake lining product that was a substitute for asbestos containing brake lining products.

ANSWER: Objection. See response to Interrogatory No. 122, above.

125. To your company's knowledge, in what decade was fiberglass first commercially available?

ANSWER: Objection; this interrogatory seeks information which is neither relevant nor calculated to lead to the discovery of relevant evidence. These interrogatories are propounded as being part of the asbestos-related litigation pending in the Eastern District of North Carolina; therefore, this interrogatory seeks information which is not relevant.

126. Prior to 1971, did your company, or its predecessor, contend that there was no satisfactory substitute for brake lining products containing some asbestos?

ANSWER: See answers to Interrogatories 98 and 122, above.

127. Did each of your asbestos containing friction products generally reach motor vehicle mechanics without substantial change in the condition in which it was sold?

ANSWER: Objection; this interrogatory is vague and unclear. Without waiving its objection, Allied-Signal has no way of knowing whether its friction products were changed prior to reaching particular motor vehicle mechanics.

128. If your answer to Interrogatory No. 155 is "No," with respect to any product, explain in what way the defendant claims its products were altered or substantially changed after sale or distribution and before reaching the mechanics.

ANSWER: This interrogatory refers to Interrogatory No. 155, and there is no Interrogatory No. 155.

129. Do you admit that motor vehicle mechanics were foreseeable users of defendant's asbestos-containing friction products?

ANSWER: Yes.

This the 8 day of December, 1989.

PATTERSON, DILTHEY, CLAY, CRANFILL
SUMNER & HARTZOG --

BY:



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VERIFICATION

STATE OF MICHIGAN)
) SS.
COUNTY OF OAKLAND)

J. KENNETH WAINWRIGHT, JR., being first duly sworn, upon his oath at law, deposes and says:

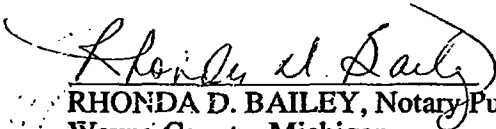
1. I am Senior Litigation Counsel for defendant, Allied-Signal Inc. I am authorized to sign the foregoing Answers to Interrogatories on behalf of Allied-Signal Inc.

2. The responses were prepared with the assistance and advice of counsel and other representatives of Allied-Signal Inc. The information contained in the responses was furnished by various employees of and departments within Allied-Signal Inc. and/or has been derived from business records maintained by Allied-Signal Inc.

3. While I do not have personal knowledge of the facts recited in the responses, they are true to the best of my knowledge, information and belief.


J. Kenneth Wainwright, Jr.

Subscribed and sworn to before me this
6th day of December, 1989.


RHONDA D. BAILEY, Notary Public
Wayne County, Michigan
My Commission Expires:

RHONDA D. BAILEY
NOTARY PUBLIC-WAYNE COUNTY, MICH.
MY COMMISSION EXPIRES 5-12-92