Eaton Corporation
Industrial Drives Operations
Airflex Division
9919 Clinton Road
Cleveland, Ohio 44144
Telephone (216) 281-2211

October 7, 1980

Mr. Neil Leonhard
Owens-Illinois, Inc.
P. O. Box 1035
Toledo, Ohio 43666

Dear Mr. Leonhard:

EATON

In response to your request, we are furnishing information relating to asbestos content in friction materials furnished by Airflex. Refer to the attached copy of Sales Department Letter #76-46 for details.

Any clutch maintenance work; such as, cleaning, sanding, filing, sawing, grinding or machining of friction material may result in exposure levels to asbestos fibers that exceed prescribed limits. Under these conditions, an approved type respirator must be used.

Please contact us if you have any questions or comments.

Very truly yours,

R. W. Rosenow, Manager
Service & Safety

RWR/pl
attachment:
cc: R. Burks R. Schier
R. Petkash D. Keck
D. Haller T. Thompson

Barry Inman v. A.W. Chesterton, Inc. et al.
St. Louis City Circuit Court No. 0922-CC09067; 10/8/2010

Eaton Corporation
Industrial Drives Operations
Airflex Division
9919 Clinton Road
Cleveland, Ohio 44144
Telephone (216) 281-2211

October 7, 1980

Mr. Fred Travis
General Manager
Chain Gear, Inc.
5055 4th Ave., South
Seattle, Washington 98134

Dear Mr. Travis:

EATON

This is in response to the request from Lone Star Cement Company for information relating to asbestos content in friction materials furnished by Airflex.

Attached is a copy of Sales Department Letter #76-46, which should alleviate any concern regarding asbestos fiber exposure during clutch or brake engagement.

Any clutch maintenance work; such as, cleaning, sanding, filing, sawing, grinding or machining of friction material may result in exposure levels to asbestos fibers that exceed prescribed limits. Under these conditions, an approved type respirator must be used.

Please contact us if you have any questions or comments.

Very truly yours,

R. W. Rosenow, Manager
Service & Safety

RWR/pl
attachment:
cc: R. Burks F. Rice
R. Petkash K. Riley
D. Haller T. Thompson

Barry Inman v. A.W. Chesterton, Inc. et al.
St. Louis City Circuit Court No. 0922-CC09067; 10/8/2010

Eaton Corporation
Industrial Drives Operations
Airflex Division
9919 Clinton Road
Cleveland, Ohio 44144
Telephone (216) 281-2211

November 3, 1980

Mr. A. Kuhnke
Director of Purchasing
Milwaukee Operations
Harnischfeger Corporation
P. O. Box 554
Milwaukee, Wisconsin 53201

Dear Mr. Kuhnke:

EATON

In response to your letter of October 17, 1980 we wish to advise that no toxic substances are associated with Airflex products.

The friction material used on Airflex clutches and brakes does contain asbestos, which is considered a health hazard as defined in the Federal Register under Subpart "Z", Section 1910.1001. Friction material specifications determine the percentage by weight of asbestos content.

The cause of friction lining wear for the most part <u>is not</u> due to abrasion, but rather due to minute spot areas of intense heat at points of contact between the drum and friction lining. At these high temperatures, the chrysotile asbestos breaks down into harmless minerals, so the actual amount of asbestos fiber that is liberated to atmosphere during the life of the lining is less than 0.3%. Exposure to high temperatures essentially destroys the asbestos fibers, and then the mechanical rubbing action produces a powder form with a particle size of less than 1 micron (micrometer). This is considerably smaller than the 5 micron limit specified by both OSHA and EPA, plus the fact that there is virtually no asbestos content remaining.

Lining dusting or smoking during clutch or brake engagement is basically carbonized material from the binder, or non-asbestos material from the fillers.

Barry Johnson, A.W. Chesterton, Inc. et al.
St. Louis City Circuit Court No. 0922-CC09067; 10/8/2010

November 3, 1980
Mr. A. Kuhnke
Page Two

In summary, there is no measurable amount of airborne asbestos fiber liberated to atmosphere during clutch or brake engagement, so there is no cause for concern that a health hazard exists.

Any clutch maintenance work; such as, cleaning, sanding, filing, sawing, grinding or machining of friction material may result in exposure levels to asbestos fibers that exceed prescribed limits. Under these conditions, an approved type respirator must be used.

EATON

Please contact us if you have any questions or need additional information.

Sincerely,

R. W. Rosenow

R. W. Rosenow, Manager
Service & Safety

RWR/mb

Barry Inman v. A.W. Chesterton, Inc. et al.
St. Louis City Circuit Court No. 0922-CC09907 10/8/2010

Eaton Corporation
Industrial Drives Operations
Airflex Division
9919 Clinton Road
Cleveland, Ohio 44144
Telephone (216) 281-2211

February 1[illegible], 1981

Ms. Sue Brundidge
Consolidated Papers, Inc.
P. O. Box 50
Wisconsin Rapids, Wisconsin 54494

Dear Ms. Brundidge:

EATON

We are in receipt of your purchase order number 01-10265-07 and note that the 14CB400 friction shoe assemblies are "to be made of non-asbestos material". Airflex is aware that asbestos has been classified as a health hazard, and OSHA has published standards specifying permissive exposure levels. These standards are listed in the Federal Register under Subpart "Z", Section 1910.1001. Effective July 1, 1976, the standard establishing permissible exposure to airborne concentrations of asbestos fibers, states as follows:

a) "The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed two fibers, longer than 5 micrometers, per cubic centimeter of air."

b) "Ceiling concentration. No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers, per cubic centimeter of air." (Note: This would be for a shorter duration than the 8-hour time element referred to above).

Where exposure levels exceed these prescribed limits, an approved type respirator must be used.

Apparently, Consolidated Papers, Inc. has some concern that these exposure levels might be exceeded during engagement of an Airflex clutch or brake, as particles of friction material are emitted into the surrounding atmosphere. The following information should help clarify this matter.

Barry Ingham, S.W. Chesterton, Inc. et al.
St. Louis City Circuit Court No. 1022-[illegible]09067; 10/8/2010

There are several different types of asbestos, and the type commonly used in friction materials is known as "chrysotile". This asbestos material is widely used in high temperature applications because of its thermal stability. The asbestos content in friction materials may vary between 25% and 60% by weight, dependent upon the friction material specifications.

The cause of friction lining wear for the most part is not due to abrasion, but rather due to minute spot areas of intense heat at points of contact between the drum and friction lining. At these high temperatures, the chrysotile asbestos breaks down into harmless minerals, so the actual amount of asbestos fiber that is liberated to atmosphere during the life of the lining is less than 0.3%. Exposure to high temperatures essentially destroys the asbestos fibers, and then the mechanical rubbing action produces a powder form with a particle size of less than 1 micron (micrometer). This is considerably smaller than the 5 micron limit specified by both OSHA and EPA, plus the fact that there is virtually no asbestos contact remaining.

Lining dusting or smoking during clutch or brake enagement is basically carbonized material from the binder, or nonasbestos material from the fillers.

In summary, there is no measurable amount of airborne asbestos fiber liberated to atmosphere during the clutch or brake engagement, so Airflex feels there is no cause for concern that a health hazard exists.

In light of the above information, please advise if you wish us to process your above referenced purchase order.

Very truly yours,

Allen H. Kerber
Sales Engineer

AHK/im

cc C. Krueger
R. Petkash

St. Louis Board of Circuit Court Judges et al. 10/8/2010