PLAINTIFF'S EXHIBIT
AB-141
PENGAD-Bayonne, N.J.

A14

Personal & Confidential

May 19, 1978

To:- Messrs. F. A. Cappucci - Trevose
R. A. Gerde - Memphis
E. W. Jones - Wood Dale
W. W. Phipps - Hayward

Subject: ASBESTOS DUST

Apparently several of the warehouse personnel are showing some concern relative to asbestos dust because of the nature of the beast. This is further compounded by the fact that we may have to re-box and even de-edge code. Because of this we will need your help and perhaps you can give us some answers to the following questions along with any other comments you might have:

1. How much time do you spend re-boxing product now?

2. How much de-edge coding are you having to do, and if so, what is your procedure for removing the edge code?

3. What equipment in the way of grinders, wire brushes, etc., do you use?

Would also like your comments relative to sweeping up the dust from the warehouse floors, racking, etc.

Obviously, you want to gain this information as subtly as you can and return it to this writer's attention under confidential cover.

Might we ask that you get this to us no later than June 2nd.

Thank you.

/mc

E. P. Hoff

cc: B. Iwarsson
R. L. Cutler
C. B. Mallory

Blind Note to B. Iwarsson/C. B. Mallory
Attached is some information that west coast people sent us which I thought might be of interest to you. EPH.

FERODO LIMITED

TURNER & NEWALL LIMITED

CHAPEL-EN-LE-FRITH
STOCKPORT
SK12 6JP
ENGLAND

16 January 1978

your ref

our ref JM/JW

Mr R C Rogers
Nuturn Corporation
311 Plus Park Blvd
Nashville
Tennessee 37217
USA

Dear Bob

I am taking the opportunity of Ron's visit to send you the enclosed report prepared by Martin Milne in conjunction with Don Hatch. I hope this information will be helpful, but if you have any further queries please do not hesitate to write again.

Best wishes.

Yours sincerely

J Marchant

Enc.

3/13/78

Neil - Butch

Copy of English Ferodo - Nuturn presentation

Skip - Stanley

Relating to the absence of asbestos fibres in the brake linings

Copy - All Sales
A. Sloane
Mike
D. Rex
(2)

DH

Internal Note

From F.M. Milne To Mr. J. Marchant Date 16th January 19 78

Brake Lining Wear Dust

Reference the query from Mr. Rogers of Nuturn Corporation, the evidence which we have collected over several years shows that there is very little crystalline material and virtually no fibrous material in lining wear dust.

On heating, chrysotile asbestos first breaks down to a non-crystalline magnesium silicate anhydride, which is non-fibrous. At higher temperatures, not usually reached during braking, the anhydride is converted to crystalline forsterite, but this is also non-fibrous. (The conversion temperature is 810 C).

We have recently had independent analyses carried out on two samples of wear dust - one from a disc brake and the other from the main dust collection point for the dynamometers in Test House, and I attach a copy of the report of the Government Chemist. The findings confirm our own analyses. The samples incidentally were taken in the presence of the Factory Inspector for this area.

A particle size analysis of the Test House dust, using microscopy methods, showed the following :

Particle Size (microns)	% Present
Up to 1	81
2	5
3	2
4	1.7
5	0.3

We define a fibre as having a minimum length of 5 microns, with an aspect ratio of at least 3 to 1. In the present sample, even the 5 micron particles did not reach this ratio, and the sample does not therefore appear to contain any fibres within the definition.

These results are in agreement with those quoted by Jacko and DuCharme of Bendix, who found that more than 99.7% of the asbestos used in friction materials is converted to a non-fibril form. Their report 68-04-0020, dated March 73 - Brake Emissions : emission measurements from brake and clutch linings from selected mobile sources - was prepared for and should be available from :

Environmental Protection Agency
Office of Air and Water Programs
Ann Arbor, Mich. 48105

I believe that we can state with confidence that brake lining wear dust normally contains substantially less than 1% of fibrous asbestos.

(G.C. FORM 36)

Department of Industry
Ministry of Technology

LABORATORY OF THE GOVERNMENT CHEMIST

Cornwall House, Stamford Street, LONDON S.E.1
Telephone: WATERloo 7900 Ext. 477

Please address any reply to THE GOVERNMENT CHEMIST and quote:
Your reference: FMH/JW

24 June 77

Report on the examination of TWO samples of BRAKE LINING WEAR DUST FOR CRYSOTILE ASBESTOS & FORSTERITE BY X-RAY DIFFRACTION
received from F. H. MILNE FERODO LTD
on 9 JUNE 77
Laboratory No. 81/D6/3 & 4

A qualitative examination of both samples D6/3 disc brake and D6/4 Test House dust showed by XRD that there was little crystalline material present in either sample. No evidence was found for the presence of crysotile or forsterite in either sample.

A quantitative estimation of the crysotile concentration by comparing the intensities of the 3.66 crysotile line with the 3.1 silicon line of an internal standard gave a crysotile concentration between 0 and 5% in both samples. The reason for the rather poor precision is in most part due to the rather variable background around the 3.66 area coupled with the inherent inaccuracy of the method for very low levels of crysotile asbestos.

You can be sure that both your samples contain less than 5% crysotile asbestos as can be measured by X-ray diffraction is in the accepted crystalline form. This figure of 5% is a conservative estimate and it is my informed opinion that your samples have less than 1% crysotile (w/w) in either.

We have not attempted to quantify the forsterite but I would say that a similar figure ~ 5% would be a conservative top concentration.

for Government Chemist

SPNY 004781

AIA

BJI

OK

FRICTION PRODUCTS GROUP
Winchester

December 15, 1978

Mr. S. S. Conway, Jr.

Subject: Asbestos

In the spring of 1978 Joseph A. Califano, Secretary of Health, Education, and Welfare, launched a campaign to inform doctors, workers, and others about the risks of asbestos exposure. The information program for health professionals began in April 1978 with a letter to the nation's physicians from the U. S. Surgeon General. The campaign furthermore included television, radio, and print public service advertising. Additionally, about 40 million social security and other federal retirement beneficiaries have or will be receiving information with their checks. Efforts will also be made to use the labor and military press and similar specialty outlets.

This new public awareness campaign will also manifest itself in new regulations, such as that governing transportation of hazardous materials. As of April 30, 1979, domestic transportation of asbestos will be subject to a regulation which calls for pallets and shrink wrapping of pallet loads in addition to individually packed bales. The HEW public awareness campaign is now in progress but a similar campaign is being contemplated by OSHA. Should such a campaign be effectuated by OSHA it is a virtual certainty that we might be faced with exposure limits lower than 2 fibers per cubic centimeter. The probability of this happening is, however, somewhat remote at this time since OSHA, conforming with the President's guidelines, is anticipating severe budget restraints and personnel cutbacks in 1979. In addition to this, OSHA is currently expending all its energies on petitioning the benzine decision and its position concerning regulation of hazardous materials in the future very much depends upon the outcome of the benzine case.

Nevertheless, I believe it behooves us to formulate our thoughts regarding our posture as it concerns exposure limits lower than what we currently have. It is assumed that new regulations will call for a maximum of 0.5 f/cm^3 as compared to the current level of 2 f/cm^3. Recognizing that 0.5 f/cm^3 is below our ability with current dust collection methods, it appears as if we have three alternatives:

1. Eliminate asbestos as a raw material.

2. Redesign our manufacturing processes to permit adherence to this standard.

3. Challenge the decision in court in order to either maintain the 2 f/cm^3 or to buy us additional time for the purpose of developing new materials.

Since alternative number one still is not ready for application in all product lines and all part numbers, and since alternative number two will be prohibitively expensive, it appears to me that only alternative number three is viable. It is estimated that taking this issue to court may cost in excess of one million dollars. This cost can be split between the members of the Asbestos Information Association, thereby reducing the expenditure to each corporation to a maximum of approximately $60,000.

Within the AIA the board of directors is currently doing its homework towards the implementation of this solution. However, should the limit be established at somewhere around 0.5 f/cm^3, I need to have the authority to commit our corporation to this amount of money on fairly short notice.

As I said, this is only the contingency plan and, for the time being, it looks as if OSHA has its hands full with the benzine ruling. We might, therefore, have enough time to develop an asbestos-free formula for all product lines. Your immediate comments to the above will be sincerely appreciated.

B. Iwarsson

BI:jt