

INTER ORGANIZATION COMMUNICATION

Raybestos  Manhattan

F. Mc Brearity
Atlanta

Corporate Trumbull
DIVISION and LOCATION

TO: Mr. H. T. Dickinson

DATE: October 27, 1976

SUBJECT: General Electric Company
Salem, Virginia

Data on brake lining decomposition products is quite sparse and that which does exist, relates only to asbestos emissions from vehicle operations or brake dynamometer tests.

Enclosed are copies of a pamphlet produced by the Asbestos Information Association of North America "Asbestos and Brake Linings" and two scientific papers referenced in the pamphlet - "Brake Lining Decomposition Products" by Lynch and "Brake and Clutch Emissions Generated During Vehicle Operation" by Jacko et al.

The composition of the wear products of asbestos containing friction materials will vary according to the temperature created during the braking operation. Note the following statement in the preface to the Jacko paper:

"Friction material emissions are generated by wear. Abrasive and adhesive wear are considered to be the most important mechanisms below approximately 450° F; thermal wear predominates above 450° F. The organic constituents pyrolyze or oxidize and are emitted to the air as carbonaceous solid particles or gaseous reaction products. The asbestos fibers are pulverized into small particles which are either trapped in the brake (or clutch) housing, fall to the road, or are emitted to the atmosphere. Most of the asbestos is heated to temperatures high enough to cause chemical conversion and is therefore trapped or emitted as olivine or forsterite particles."

According to the Jacko study only .3% of the dust created by automotive braking survived as asbestos. The remainder was converted to an inert substance known as forsterite.

PLAINTIFF'S
EXHIBIT
WV-021591

PLAINTIFF'S
EXHIBIT
78697.01

GEWVOCT04-011479

WV-21591

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The conditions observed in the Jacko study may not be duplicated in the operation of the G.E. brake assembly if the operating temperatures are different. However, it makes little difference so far as OSHA is concerned because the only thing that counts is the level of airborne concentration in the breathing zone of workers. The only way this can be determined is by monitoring the work place where the brake assembly is used. G.E. has an industrial hygiene department, with Headquarters in Bridgeport, and I am sure they are quite capable of making this determination.

Please let me know if you need any further information.


John H. Marsh

/as

Enclosure

cc: Mr. F. McBrearity - Atlanta
Mr. R. Osborne