FRICTION MATERIALS

CONTAINING ASBESTOS COATED BY
PHENOLIC RESIN BINDER

RISK ASSESSMENT FOR FREE ASBESTOS - BRAKE REPAIR SHOPS

EXPOSURE

1. AS PER ARTICLE BY L. LAMONT MOORE, SAFETY SCIENCES DEPT., INDIANA UNIVERSITY OF PENNSYLVANIA (AIHA JOURNAL 1/88 "ASBESTOS EXPOSURE ASSOCIATED WITH AUTOMOTIVE BRAKE REPAIR IN PENNSYLVANIA")

   BRAKE REPAIR IN SERVICE STATIONS, CAR DEALERSHIPS AND MUFFLER SHOPS RESULTS IN MEAN TIME-WEIGHTED AVERAGE EXPOSURE OF <0.002F/CC FOR 8-HRS. OF FIBERS.

2. ACCORDING TO JACKO AND DUCHARME < 1% OF BRAKE WEAR DEBRIS IS FREE ASBESTOS (EPA SPONSORED STUDY - 1972).

3. ONE CALCULATION FOR POTENTIAL EXPOSURE TO FREE ASBESTOS (WHICH IS SUBJECT TO PROPOSITION 65) IS:

   <0.002F/CC X <1% = <0.00002F/CC

   $\equiv 2 \times 10^{-5}$ F/CC

4. ASSUME MAN BREATHES $20M^3$ IN 24 HOURS, THEN TOTAL AIR BREATHED IN 8 HOURS IS $6.7M^3$

   $\equiv 6.7 \times 10^6$ CC

5. TOTAL FIBERS (FREE ASBESTOS) BREATHED IN THIS EXAMPLE IS

   $(<2 \times 10^{-5}$ F/CC) X $(6.7 \times 10^6$ CC) = 13.4×10 =

   <134 FIBERS (FREE ASBESTOS)

6. CALIFORNIA GUIDELINE ASSUMES AUTOMATICALLY THAT THERE IS NO SIGNIFICANT RISK WHERE TOTAL EXPOSURE TO ASBESTOS IS $\leq$ 100 fibers per day

   COMPARISON: <134 FIBERS PROJECTED VS 100 FIBERS STANDARD

7. ACTUAL BENDIX FRICTION MATERIAL LABEL STATES:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

8. STATE OF CALIFORNIA RECOMMENDED LABEL:

"WARNING: THIS PRODUCT MAY CONTAIN A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER."

9. <u>CONCLUSION:</u>

THE PROJECTED EXPOSURE UNDER MEASURED AND REPORTED CONDITIONS OF ACTUAL USE SHOW POSSIBLE BORDERLINE EXPOSURE IN EXCESS OF THE STATE OF CALIFORNIA'S LEVEL OF "NO SIGNIFICANT RISK". IF RECOMMENDED PRECAUTIONS (FMSI VENTILATION CONTROL AND NO AIR HOSES) ARE USED, EXPOSURES PROBABLY WOULD BE CONSISTENTLY BELOW CALIFORNIA'S "NO SIGNIFICANT RISK" LEVEL. THEREFORE, THE NEED FOR LABELING IS QUESTIONABLE.

<u>HOWEVER</u>, SINCE WE ALREADY LABEL BENDIX FRICTION MATERIAL WITH A WARNING THAT WE BELIEVE TO BE "CLEAR AND REASONABLE" AND IS ACCEPTED NATIONALLY AND IN OTHER STATES, WE BELIEVE WE FULLY COMPLY WITH THE SPIRIT AS WELL AS THE LETTER OF PROPOSITION 65 REQUIREMENTS ALREADY. THEREFORE, NO FURTHER ACTION IS REQUIRED BY THE BUSINESS AREA.

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