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file

Inter Office

Personnel and Organization Staff

24 October 1983

Mr. F. E. McGaw
Safety Engineer
Lima Engine Plant

cc A. Klemm

Subject: Clutch Dust and Use of Freon 11 or 12

Reference: Industrial Hygiene Bulletins 14 and 42

As you requested, we investigated the composition of clutches installed on engines manufactured at Lima Engine and the use of Freon 11 or 12 as cleaner before silicone gasket applications.

We found that the Penta and the 2.3 liter OHC utilize a non-asbestos fiber glass clutch, while the 460 V-8 made at Lima still uses an asbestos clutch. It has been our experience that excess asbestos fibers can be present in air if clutches are carelessly packed at the supplier causing fiber shedding during transit, and employees throw the shipping boxes while unloading the clutches. This problem can be handled by insisting the supplier carefully package the clutches in clean boxes with a flypaper type lining of the box and between clutches. If fibers are noted in the boxes or on the surface after the above actions are taken, an industrial hygiene study should be requested.

Plant quality control would like to use a Freon 11 or 12, isopropanol, and acetone mixture of 80%, 10%, and 10% respectively to clean aluminum components of the engine before applying a silicone gasket. Generally, we would discourage use of Freon because of its very high evaporation rate, inhalation toxicity, and cost. We encourage the plant to conduct a shop trial using methyl chloroform as a viable alternative to Freon. If the mixture noted above is used with impervious gloves and adequate ventilation (minimum of 27,500 cubic feet of fresh air per pint of solvent evaporated) and in small quantities without atomization, employee exposures should be controlled. However, the plant environmental control representative should be advised because Freon use is monitored and may be restricted due to its involvement with the earth's ozone layer.

H. B. Lick

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