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Dr Robert K Hinderer Senior
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15 November 1979

Dear Bob

PVC DUST

I have pleasure in enclosing the latest agreed text of a brief statement on PVC polymer dust. The statement will be used by the four UK PVC polymer producers to inform their customers.

Please let me know if you have any queries.

Yours sincerely


H M Clayton
TECHNICAL MANAGER - PVC DIVISION

cc Mr Kent H Lee Jr

ENC

HMC/JB

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PVC DUST

For occupational health purposes, PVC dust is treated as a nuisance dust (defined as producing no irreversible change in living tissue when exposures are kept under reasonable control) and is monitored against a Threshold Limit Value (TLV) of 10 mg/m^3 on an eight hour Time Weighted Average (TWA):

Throughout the world the PVC manufacturing industry has carried out programmes of investigation into the effects of PVC dust on both animals and humans. In the UK, animal tests at ICI's Central Toxicology Laboratories showed no fibrosis of the lungs. US Government sponsored work on three animal species reported no adverse effects. A survey in 1975/76 by the National Coal Board Radiographic Unit of PVC dust exposed workers at ICI's Hillhouse factory found no respiratory diseases attributable to PVC. However, in the last two years papers published in medical journals have suggested that PVC dust affected health through lung damage. This was so different from the industry observations that ICI, as a leading manufacturer of PVC polymers, commissioned the Edinburgh Institute of Occupational Medicine (IOM) to carry out a study of the lung health of past and present employees at the Hillhouse factory where PVC has been manufactured for thirty-five years.

The IOM carried out its health and hygiene examination of 818 employees in 1979 and the depth and thoroughness of this study is probably unique in the field of nuisance dusts. They have recently completed their statistical analyses and have reported that there is no evidence of serious lung damage from inhalation of PVC dust. The IOM did detect a small but measurable effect on the ventilatory capacity of the lungs related to degree of exposure to PVC dust and to cigarette smoking habits. The effect is small and difficult to detect and these findings will be the subject of further research to understand what, if any, risks to health may be involved.

The Government and TUC Medical Adviser have been informed of the IOM results which the Institute hopes to publish in the scientific literature in the Spring of 1980.

The IOM work reinforces the importance of the previous recommendation made by all the UK producers. It is emphasised once more that the atmospheric concentration of PVC dust should be kept as far as possible below the nuisance dust threshold limit value of 10 mgm/cubic metre. The UK producers will be pleased to provide advice on choice of equipment and handling practices.

HMC/JB
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