

CHRONIC INHALATION TOXICITY OF TALC IN F344/N RATS AND B6C3F₁ MICE. C H Hobbs¹, K M Abdo², F F Hahn¹, N A Gillett¹, S L Eustis², R K Jones¹, J M Benson¹, E B Barr¹, M P Dieter², J A Pickrell¹, and J L Mauderly¹. ¹Inhalation Toxicology Research Institute, Albuquerque, NM and ²National Institute of Environmental Health Sciences, Research Triangle Park, NC.

F344/N rats and B6C3F₁ mice were exposed to aerosols of non-asbestiform, cosmetic grade talc (mass median aerodynamic diameter ~ 3 μ m) 6 h/day, 5 days/wk for 103 or 104 wk for mice and 113 wk for male rats and 122 wk for female rats. The exposure concentrations were 0, 6, and 18 mg talc/m³. The lung burden accumulated with time and reached levels of about 20-30 mg talc/g of control lung in rats and mice exposed to 18 mg/m³, and about 10 mg (rats) and 3 mg (mice)/g of control lung in animals exposed to 6 mg/m³. Survival was not affected by the exposure. Pulmonary function measurements showed a dose-related progression of changes consistent with restrictive lung disease. Histopathological examination of the lungs of rats showed progressive dose-related, non-neoplastic changes in the lung consisting of granulomatous inflammation, peribronchial histiocytic hyperplasia, alveolar epithelial hyperplasia, squamous epithelial metaplasia, focal interstitial fibrosis, and squamous cysts. In mice, the non-neoplastic lung lesions were also dose-related and consisted of chronic inflammation and macrophage hyperplasia. The incidence of lung tumors (both bronchiolar-alveolar adenomas and carcinomas) was significantly increased only in female rats exposed to 18 mg/m³. Lung tumor development may be related to high talc lung burdens. There were no significant increases in neoplasms in mice. Both male and female rats exposed to 18 mg/m³ had increases in pheochromocytoma (combined benign and malignant) of the adrenal gland. The relevance of this finding to human exposure is uncertain. (Research supported by the National Toxicology Program of NIEHS via Interagency Agreement Y01-ES-20088 with the U.S. DOE/OHER under Contract No. DE AC04-76EV01013).

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Representing the personal care products industry

E. Edward Kavanaugh
President

92-TA-13

MEMORANDUM

DATE: December 10, 1992

TO: Talc Interested Party Task Force

FROM: Stephen D. Gettings, Ph.D., D.A.B.T.
Director, Toxicology

SUBJ: NTP Talc Study

According to NTP, no further action has been contemplated on Talc, other than finalization of the Draft Report. NTP considers it very unlikely that Talc will be listed in the NTP Annual Report on Carcinogens, but that a decision to do so is at least one year away.

Apparently, Lovelace plan to publish "a series of papers" resulting from the study.

I will keep you informed as to any further developments.