

may occur, and this is usually from brown to black. This is often seen as an uneven black speckling within the mole, or as a dark staining at the periphery. Less commonly, pale non-pigmented areas or fleshy tumors are seen. The doctor should suspect the lesion on the hist before he even examines the patient. If suspicions of malignant melanoma are supported by the appearance of the lesion, wide surgical excision should be recommended as an initial procedure -- J. Am. Med. Assn. References & Review

- 150 Detection of Chromate Sensitivity: Intradermal Versus Patch Testing. S. Epstein. *Ann. Allergy* 24, 68 (Feb. 1966).

Three cases are described which demonstrated clinical contact allergy to chromium with negative patch tests. However, each individual developed positive reactions to intradermal testing with weak dilutions of potassium dichromate. In addition to discussing the indications for intradermal testing versus patch testing, the reliability and risks involved with intradermal tests are discussed. -- J. Occ. Med. Absts.

CHEMICAL HAZARDS

- 151 Carcinogens in a Cracked Petroleum Residuum. The Contributions of Various Polycyclic Aromatic Hydrocarbons to the Carcinogenic Potency of a Catalytically Cracked Oil. R. Tye, et al. *Arch. Environmental Health* 13, 202-207 (Aug. 1966).

Fractionation by several techniques and bioassay have been applied to a petroleum residuum that had come from a process that had involved catalytic cracking. The major carcinogens in this oil were categorized according to whether they were found in the relatively high boiling portion (438-455 C) characterized by the presence of 5-ringed or alkyl 4-ringed polycyclic aromatic hydrocarbons (PAH), in intermediate fractions (404-438 C) characterized by unsubstituted and methyl substituted 4-ringed PAH, and in lower boiling fractions characterized by assorted small compounds including alkyl 3-ringed PAH. In the same order the percentages by weight (of the whole oil) of characteristic carcinogens found in each category were as follows: benzo(a)pyrene 0.4%; benz(a)anthracene and alkyl homologs 0.4%; and benzo(c)phenanthrenes, 0.01%. Larger quantities of benzo(c)phenanthrenes may have been present in the intermediate fractions, which were not analyzed for these compounds. In spite of the small percentage that was found, the presence of this class of carcinogens may be significant because they were the dominant carcinogens in the most volatile portion of the oil. There are six references. -- Authors' summary

- 152 The Estimation of a Euglobulin by Ion-Exchange Chromatography. C.H. Powell, et al. *Arch. Environmental Health* 13, 199-201 (Aug. 1966).

A chromatographic appraisal of a euglobulin was developed utilizing a column of finely divided amberlite IRC-50. A concentrate of the human euglobulin was chromatographed at $-1\text{C} \pm 2\text{C}$, pH 5.38 with a flow rate of 8 ml/hr. The eluted fractions were subjected to a bioassay for euglobulin and absorbance was measured at 278 m μ . A peak of concentration of protein corresponded closely with the peak of biological activity. Sera from experimental animals were tested by both techniques and a linear relationship was found between the level by bioassay and the quantity of protein as indicated by the absorbances of a chromatographic peak. There are 13 references. -- Authors' summary

- 153 Eye Irritation Response at Low Concentrations of Irritants. E.A. Schuck, et al. *Arch. Environmental Health* 13, 570-575 (Nov. 1966).

The linear relationship between reported eye irritation and formaldehyde concentration in simulated atmosphere experiments does not hold when the formaldehyde concentration is below 0.3 parts per million (ppm). Subjects may experience equal irritation at irritant concentrations differing by an order of magnitude. Thus most subjects experienced the same irritation intensity at 0.05 ppm of formaldehyde as they did at 0.5 ppm. At irritant concentrations less than 0.3 ppm, the rate of blinking determines to an important extent the intensity of eye irritation which the subject detects. The eyes of human subjects can readily detect and react to as little as 0.01 ppm formaldehyde. From these simulated atmosphere experiments, one can predict that the concentrations of formaldehyde and peroxyacetyl nitrate found in atmospheres polluted with photochemical air pollution can account for most of the detected eye irritation. It should be noted that the experimental design used in these experiments does not preclude the postulated presence of an unknown short-lived irritant formed in the early stages of the photochemical reactions. However, these results indicate that such postulated irritants are not required in order to account for the observed irritation. There are nine references. -- Authors' summary

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