

Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

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SEPTEMBER, 1956
(Vol. 20, No. 9)

INDUSTRIAL HYGIENE FOUNDATION
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INDUSTRIAL HYGIENE FOUNDATION

FOUNDATION FACTS

Foundation Facts is a monthly news-letter issued to industrial concerns holding membership in Industrial Hygiene Foundation. The Foundation is a nonprofit association of industries for the advancement of healthful working conditions.

Volume 18 September, 1956 No. 9

21ST ANNUAL MEETING OF INDUSTRIAL HYGIENE FOUNDATION

Detailed program information for the 21st Annual Meeting of Industrial Hygiene Foundation, to be held at Mellon Institute on November 14 and 15, 1956, appears on subsequent pages of this issue of Industrial Hygiene Digest.

The Foundation is proud to present such a distinguished roster of speakers from industry and the professions to discuss the management, medical, legal, engineering, and chemical-toxicological aspects of industrial health problems. All of the groups will come together at the Management Conference and a Joint Technical Conference which is being held for the first time this year.

Member companies of the Foundation are invited to send representatives to the various sessions. Forms for designating those who will be attending the meeting will be mailed shortly, along with printed preliminary programs. REMEMBER THE DATES — NOVEMBER 14-15, 1956.

"PRODUCTS" OF INDUSTRIAL HYGIENE FOUNDATION

.....from the toxicology laboratory

A study of the action of formulations consisting of detergents in white oil [illegible] corneal epithelium of rabbits has been made in Industrial Hygiene Foundation's [illegible] laboratory. Findings are to be reported in an early issue of the A.M.A. Archives of Industrial Health.

The use of detergent additives in lubricating oils raised the question [illegible] the handling of these formulations constitute a significant hazard to the eye. Animal experiments were conducted in order to provide factual information on which to base an evaluation of the eye hazards that might be associated with the use of detergent additives in lubricating oil. A second purpose was to determine the nature and extent of corneal damage, if any, produced by instillation of the detergent additives into the eye.

The USP white oil was used alone as a control and a 5 per cent solution of soap flakes was included for comparison. The detergent additives apparently did not enhance the action of the USP white oil as indicated by the fact that the degree of response produced by the test substances compared favorably with the response produced by the base oil alone. The instillation of the soap solution caused an immediate irritation which was more severe than that produced by the other test materials. However, the effects were transitory and recovery was complete when dosing was terminated. In general, the corneal response produced by the detergent additives was relatively mild considering the intensity of the experimental procedure. It seems unlikely that any appreciable damage would be incurred by accidental contact provided that adequate first-aid measures are taken.

1188 A Study of Respiration in Pulmonary Asbestosis. H. Bastenier, H. Denolin, A. de Coster, and M. Englent. Arch. maladies profess. 16, 546-553 (1955). French.

In order to test the respiratory value of lungs affected with asbestosis nine cases were closely studied. The seven men and two women had been exposed to asbestos dust, 1,000 to 2,000 particles per cu. m., for 18 to 30 years. The patients displayed definite symptoms of asbestosis with troublesome cough and dyspnea, and all showed x-ray shadows like ground glass extending over both lungs. No tubercle bacilli were found in any case. A definite reduction was found in vital capacity, but the maximum expiratory volume was satisfactory. Breathing, however, was accelerated by hyperventilation. At rest breathing was sufficient and satisfactory, but on exertion dyspnea appeared, varying considerably according to the pathological lesions in the lungs. These functional changes were in no way different from those seen in other cases of pneumoconiosis. Varying emphysema was found, but no special strain was thrown upon the heart. -- Cond. from Bull. Hyg.

1189 Asbestosis: Report of a Case. E. R. Wiese and W. E. B. Hall. Diseases of Chest 30, 229, 230 (Aug. 1956).

The history and autopsy findings in a fatal case of asbestosis are reported. Conditions described include: absence of the middle lobe of the right lung; greatly enlarged heart; wide spread, sharply demarcated development of fibrosis; and degeneration of collagen in extensive irregular fields. These and other conditions are described fully. Fine needles representing the original asbestos fibers were seen. Small asbestos bodies were seen in a few areas of focal fibrosis, although they had not appeared in the sputum.

1190 New Viewpoints on Pulmonary Cancer in Asbestos Workers. H. Bohlig and G. Jacob. Deut. med. Wochschr. 81, 231-233 (Feb. 17, 1956). German.

The following distinguishing features have been attributed to the lung cancer that has been recognized as an occupational disease of asbestos workers: (1) increased incidence; (2) development at an early age; (3) dependence on duration of exposure to asbestos dust; (4) a latent period between onset of exposure and the appearance of the cancer; (5) the localization; (6) the histological structure; and (7) the multicentral origin. The authors discuss each of these points, and show that there is little clear evidence to support any of these assumptions, with exceptions noted. Women workers in the asbestos industry have lung cancer more often, and at an earlier age than do other women, but the same is not true of men. Malignant growths of the pleura seem to occur more often in asbestos workers than in other persons. The multicentral development is observed also in workers exposed to cobalt and to chromates. The study of the pathogenesis is still in the state of hypotheses, and the theory of mechanical pathogenesis is given most consideration. Microtraumas and asbestos bodies are always found in the pulmonary cancers of asbestos workers, but the authors feel that this does not necessarily prove the mechanical theory. They cite several factors that speak against a purely mechanical pathogenesis of asbestos cancer, but they concede that the development of so-called asbestos warts proves the irritating effect of asbestos on human tissues. -- Cond. from J. Am. Med. Assn.

1191 Nasal Penetration of Particles of Small Inertia in Experimental Animals. Gabrielle Asset, L. E. Gongwer, and Stella Ryan. Arch. Ind. Health 13, 597-601 (June 1956).

Experiments were carried out to determine the nasal penetration of particles of small inertia in dead rabbits, dogs, and guinea pigs. The heads of the animals, or the entire bodies, were exposed in a wind tunnel to an aerosol consisting of particles of 1.3 microns with density of 1.2 g. per cc. and moving at a rate of 2.5 mph. The concentrations of the aerosol entering the nasal passages and of that leaving the nasal passages were determined. It was found that there was a significant difference in nasal penetration between the guinea pigs, on the one hand, and the rabbits and the dogs, on the other hand. Wind direction had no influence on the nasal penetration of droplets of low inertia.

-- Authors' summary

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