

Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

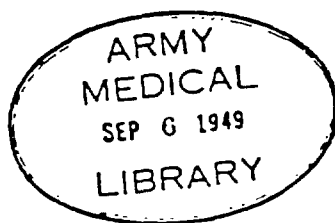
MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL . . . decisions and trends



AUGUST, 1949
(Vol. 13, No. 8)

INDUSTRIAL HYGIENE FOUNDATION
4400 FIFTH AVENUE -- PITTSBURGH 13, PA.



FOUNDATION FACTS

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

Vol. 11

August, 1949

No. 8

M.E. Coyle of General Motors to Keynote Annual Meeting

Conferences to Include one on Air and Stream Pollution

M.E. Coyle, Executive Vice-President of General Motors Corp., will deliver the keynote address opening the 14th annual meeting of Industrial Hygiene Foundation at Mellon Institute, Pittsburgh, on November 17. Mr. Coyle will speak on subjects of broad interest to industrial management, as corporate activities and their influence on the National economy.

Besides the main meeting for management representatives, four professional conferences will be held here on November 16----(1) Medical, (2) Chemical & Toxicological, (3) Engineering and (4) Legal. These round-table sessions are being arranged by the respective professional committees in the Foundation and the agenda will be announced soon.

November 18, the day after the main meeting, will be devoted to a conference on the Air and Water of Industrial Communities, with emphasis on air pollution. The membership voted 3 to 1 in favor of such a conference which in effect will be a continuation of the main meeting. The agenda will cover subjects of interest to both management and technical representatives.

The Medical Conference on November 16, the main meeting on November 17 and the "air and water" conference on November 18 will all be held in the main auditorium at Mellon Institute. The other conferences (November 16) will all be held either at the Institute or nearby at sites to be announced.

Hotel reservations should be made now. Both the Hotels Webster Hall and Schenley, near Mellon Institute, promise full cooperation, as do the downtown hotels and the Pittsburgh Convention Bureau.

More details later.....

I-H-F in American Can Company's Annual Report

The 47th annual report of the American Can Company, a Foundation member, contains the following:

"With the assistance of Industrial Hygiene Foundation of America, which is located in the Mellon Institute in Pittsburgh, a survey was conducted of the Company's medical program for employees. The purpose of this survey was to determine ways whereby the Company's already comprehensive medical program can be made more effective."

(Editor's Note: The Foundation is now engaged in four other such studies dealing with medical administration, cost and procedure.)

--- November 16, 17, 18---

However, great care should be taken to exclude the tuberculous in selecting persons to receive aluminum therapy. (4) It is not believed that a scientifically controlled experiment in industry is feasible for the evaluation of aluminum for the prophylaxis of silicosis. This follows from the uncontrollable variables inherent in the industrial situation and other factors which have been discussed. For these reasons, it appears improbable that any research agency would consider it advisable to undertake such a project except under special conditions already discussed, and which may not be attainable. (5) The McIntyre Research Foundation, as presently organized, is not equipped to solve the aluminum prophylaxis problem in relation to silicosis. The steps considered necessary to accomplish this objective are outlined. (6) Research should be continued with laboratory animals with the object of finding a more adequate basis for application to man. Such study is now included in the program of the Saranac Laboratory of the Trudeau Foundation. -- Authors' Summary

- 866 Effects of Electricity on the Human Body. W.B. Kouwenhoven.
Ind. Med. 18, 269 (July, 1949).

The author discusses briefly the various effects of electricity on the body, including variations with the amount of current. The current values of interest are: (1) threshold of feeling, about 1 milliamperes; (2) let-go current, above which it is difficult to let go of a wire, about 9 milliamperes for men, 6 for women; (3) current producing ventricular fibrillation, 0.1 ampere; (4) current producing a block in the nervous system, one ampere or more; and (5) the counter shock current. The last three result in death if prolonged; otherwise artificial respiration may save the victim. These effects refer to alternating current of commercial frequency. Direct current is much less harmful. The only effect of high-frequency currents is heating.

- 867 Asbestosis and Cancer of the Lung. Editorial.
J.A.M.A. 140, 1219-1220 (Aug. 13, 1949).

Records of English, American and German physicians and The Annual Report of the Chief Inspector of Factories in England for 1947 show that the occurrence of cancer of the lung is related to pulmonary asbestosis. This relation is supported by the following observations: (1) The incidence rate of cancer of the lungs in asbestosis patients is 10 to 15 times as high as among the general population. (2) The male-female ratio is more nearly equal than it is for the general population, which indicates that an environmental and evidently occupational carcinogen tended to equalize the incidence rate of cancer of the lungs for both sexes. Recent experimental observations support this interpretation of clinical evidence.

- 868 Changes in the Lungs Produced by Natural Graphite. H.E. Harding and G.B. Oliver. Brit. J. Ind. Med. 6, 91-99 (April, 1949).

A brief description is given of the industrial uses of natural graphite, which is a crystalline carbon mixed with up to 10% of free silica and with other minerals. The greatest dust risk occurs in the grinding of natural graphite, for which evidence is presented to show that this can lead to

- 875 Research on the Development of Silicosis Following Cessation of Exposure to Dangerous Dust. Vera Greinacker-Oristofari and F. Lang. Ztschr. f. Unfallmed. 40, 61 (1947) German.

The authors prepared tables which give the status of silicotic persons who were removed from exposure for at least four years. From these figures the authors conclude that the workers who are removed from exposure as soon as the first roentgenologic changes are noted have a greater chance of not falling ill or of manifesting illness later, than those who go on working. They stress the importance of adopting technical measures to control dust.

-- Condensed from J. Ind. Hyg. & Tox.

- 876 Investigations on Combat of Occupational Anthrax: Further Experiments on Disinfection Procedures in Industries Utilizing Animal Hairs and Bristles: Bactericidal Action of Watery and Soapy Formaldehyde Solutions at Higher Temperatures. E. Hailer and K. Heicken. Ztschr. f. Hyg. u. Infektionskr. 128, 109 (July, 1948) German.

The bactericidal effect of formaldehyde solutions on anthrax strains is greatly enhanced by increased temperature. With the same concentration, a formaldehyde solution is 100 times as effective at 80°C. as at 20°C. The addition of soap increases the sporocidal effect, particularly in the lower concentrations. The most effective concentrations for various temperatures were determined. On the basis of these observations a procedure was developed for the disinfection of animal hairs and bristles (which are impaired by exposure to boiling or to steam under pressure), which was used with success in establishments that spin horse hair or manufacture brushes.

-- Condensed from J. Ind. Hyg. & Tox.

- 877 Investigations on Combat of Occupational Anthrax: Bactericidal Action of Caporit, Chloramine, Chlorimide, and Formaldehyde Against Anthrax Spores at Twenty, Twelve and Four °C. E. Hailer and K. Heicken. Ztschr. f. Hyg. u. Infektionskr. 128, 87 (July 16, 1948) German.

These studies were conducted to determine the most suitable methods for the disinfection of railroad cars and other transportation facilities in which imported skins and other possible sources of anthrax had been carried, also of storage facilities, tanneries, wool-carding establishments, horse-hair-spinning, and for the protective clothing of workers. Of the three chloride preparations, caporit was found to be the most efficient, particularly at the lower temperatures of 12 and 4°C. The sporocidal action of formaldehyde solutions increased in proportion to the concentration up to a concentration of 4%. The disinfecting potency of these solutions was considerably less at 12°C. and even less at 4°C. than it was at 20°C. The soapy solutions of formaldehyde were more effective at lower temperatures than the watery solutions and the ones that had been prepared 24 hours before, either with or without soap were more effective than fresh solutions. It was concluded that the solutions of caporit and formaldehyde are of practical value for the disinfection of areas which might be contaminated with anthrax organisms.

-- J. Ind. Hyg. & Tox.

(Editor's Note: We have no clue to the composition of "Caporit".)

- 934 Control of Cupola Stack Emissions. J.F. Drake and T.G. Kennard. Iron Age 163, 88-92 (Apr. 7, 1949).

An installation is described involving a closed charging bell, a dry dust collector and a wet washer, which results in stack emissions within the limits set by Los Angeles County air pollution regulations. Data are given on the nature of matter collected by this system.

- 935 Musgrave "Aerodynamic" Dust Collector. Anon. Ind. Heat. Engr. 10, 188-189 (Sept. 1948).

Messrs. Musgrave & Co., Ltd, have acquired the manufacturing and selling rights for this new collector (Systeme Linderoth), which is based on a new principle of separation, and is designed to overcome difficulties inherent in the normal type of centrifugal collector. The filter surface consists of a specially slotted sheet bent into the form of a cone. The air or gas to be cleaned is passed at high velocity over this surface, and due to the form of the slots, aerodynamic forces are set up, the resultant force on the dust particles being in a direction away from the cone face. This force keeps the dust particles suspended in the form of a thin cloud layer immediately in front of the filter surface, while the clean air escapes through the slots. These slots or passages for the clean air are many thousand times larger than the dust particles which are removed, so that even with adhesive dusts there is little tendency for the filter to become clogged.

-- Atm. Poll. Bull.

- 936 Is It True that Silicosis Is Not Progressive in the Absence of Tuberculosis? J.L. Nicod. Presse Med. 57, 51ff. (Jan. 8, 1949).

Nicod does not agree with the conclusions of the conference on pneumoconiosis held in London in April, 1947, which asserted that pneumoconiosis can be arrested spontaneously by the cessation of exposure to dust except for those cases in which silicosis is combined with tuberculosis. He performed necropsies on 150 miners who had been employed in the Swiss Alps and who had died from silicosis. Neither recent nor old tuberculous lesions could be demonstrated on microscopic examination of 35 to 40 per cent of these 150 men who had been working as miners only temporarily, in some cases not longer than one year, and who died from silicosis twelve to twenty-three years after having discontinued work in the silica dust environment. The postmortem examination revealed the progressive course of the silicosis in the pulmonary tissues and in the lymph nodes in the absence of any tuberculous process. In cases in which silicosis was combined with tuberculosis, the latter nearly always developed after the silicotic lesions in the lungs, and frequently it had an acute and terminal course. Tuberculosis is a late complication of the pneumoconiosis in the great majority of silicotic patients.

-- J.A.M.A.

- 937 Dust Control in Machine Shops. Anon. Industrial Notes. Bureau of Ships, Navy Dept. No. 91. 12pp. (April 22, 1949).

Conscious of the daily requirements of proper dust control, technicians are stressing constantly the importance of using effective dust-collecting



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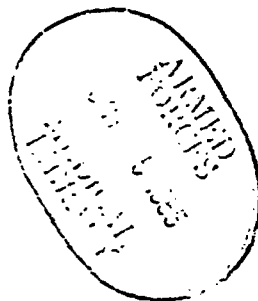
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SEPTEMBER, 1955

(Vol. 19, No. 9)

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

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Volume 17

September, 1955

No. 9

DR. WALMER PARTICIPATES IN CONFERENCE

Dr. C. Richard Walmer, Managing Director of the Foundation, presented a paper on "Who Are Mentally and Physically Handicapped Workers?" at a Conference on "Industry's Stake in the Handicapped" on September 8. The conference was part of a course for management offered at the Management Center, School of Business Administration, Marquette University.

NEW REPRINTS AVAILABLE

Two reprints on a broad "Toxicologic Study of Calcium Halophosphate Phosphors and Antimony Trioxide" are available. The Part I, takes up Acute and Chronic Toxicity and Some Pharmacologic Aspects. Part II is concerned with Pulmonary Studies. The papers are based on investigations conducted in Industrial Hygiene Foundation's Toxicology Laboratory by Paul Gross, M.D., J. H. H. Brown, Ph.D., Marian L. Westrick, Ph.D., Raymond P. Srsic, Nancy E. Butler, and Theodore F. Hatch. The articles were published in the A.M.A. Archives of Industrial Health, June 1955, vol. 11, pp. 473-478.

Reprints of a paper on "Biologic Testing of New Materials of the Particle Size", presented by Paul Gross, M.D., Research Pathologist for the Foundation at the I.H.F.'s 19th Annual Meeting, may be had on request.

20TH ANNUAL MEETING OF I.H.F.

Subsequent pages of this issue of the Digest carry details on the program for the coming Annual Meeting on November 16-17 to be held at Mellon Institute. We are proud to bring together such a distinguished group of speakers to discuss for you major industrial health problems facing management today. Complete preliminary programs will be mailed to representatives of member companies in October, and we hope that each company will designate personnel to attend the management session and the technical conferences, which include Medical, Legal, Engineering, and Chemical-Toxicological sessions. Innovations this year are the Joint Medical and Chemical-Toxicological and the Joint Engineering-Legal sessions.

REMEMBER THE DATES—NOVEMBER 16-17, 1955

I.H.F.

the common aspects of tuberculosis were seen instead of the features characteristic of silicotuberculosis. It is suggested that the term "tuberculosilicosis" be used for such patients. Active tuberculosis was found in eight patients with stage 3 silicosis, but most of the patients in that stage did not show signs of tuberculosis or other infection. The authors conclude that the transition from the nodular to the massive stage can take place without the superimposition of infection.

-- Cond. from J. Am. Med. Assn.

- 1113 Mortality from Lung Cancer in Asbestos Workers. R. Doll. Brit. J. Ind. Med. 12, 81-86 (Apr. 1955).

In necropsies of 105 persons who had been employed at an asbestos works, lung cancer was found in 18 instances. In 15 cases asbestosis was also found. These 15 workers were employed at least nine years before 1923, when dust control regulations became effective. An additional 113 men who had been exposed to asbestos dust for 20 years were followed up and their mortality was compared with that of the whole male population. Thirty-nine deaths occurred in the group whereas 15.4 were expected. The excess was entirely due to excess deaths from lung cancer (11 against 0.8 expected) and from other respiratory and cardiovascular diseases (22 against 7.6 expected). All the cases of lung cancer were confirmed histologically and all were associated with asbestosis. From the data it is concluded that lung cancer is a specific hazard of asbestos workers and that the average risk among men employed for 20 years or more has been of the order of ten times that experienced by the general population. The risk has become progressively less as the duration of employment under the old dusty conditions has decreased.-- Cond. from author's summary

- 1114 Primary Lung Cancer in South Wales Coal Workers with Pneumoconiosis. W. R. L. James. Brit. J. Ind. Med. 12, 87-91 (Apr. 1955).

Primary lung cancer was found at necropsy in 3.3% of 1,827 South Wales coal miners and in 5.4% of 1,531 South Wales non-miners. In 12 cases with massive pneumoconiosis the tumor was in the mass, or touching it, in five. In the other seven the tumor was remote. Lung cancer in South Wales miners is similar to that in non-miners with respect to the ages at death, the distribution of the histological variants of the tumor, and the distribution of metastases. The significance of these findings is discussed. Attention is drawn to the difficulty of diagnosing lung cancer in the presence of massive pneumoconiosis.

-- Author's summary