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shops are some of the typical results. To avoid such hazardous conditions, the Division of Industrial Hygiene writes letters to all plants in the State receiving defense contracts. Medical, engineering and

chemical aid is offered, and enclosed with the letter is a list of articles from the Division dealing with industrial hazards. Plants are visited to discover possible dangerous conditions.—*Helen Lawson.*

DUST HAZARDS AND THEIR EFFECTS

THE SILICOTIC NODULE IN HUMAN AND EXPERIMENTAL SILICOSIS: A COMPARATIVE STUDY. *T. H. Bell, A. A. Ferris and E. J. King. J. Path. and Bacteriol., vol. 51, pp. 263-267 (Sept. 1940).*

The authors report on a comparative study of silicotic lesions in man and those produced in rats after a single intra-tracheal injection of silicon dioxide, ranging from 0.8 to 5 μ . They stress the zone of fibrous tissue with practically no silica particles ("redundant fibrous encapsulation") as an important difference between silicosis as seen in man and that in experimental animals, where they found such was lacking. They also point out some differences in the character of the fibers and their pattern. They speculate as to the possibility that in man the lesion may be complicated by infection. Evidence as to the development of the "redundant capsule" with an outer halo of dust is not submitted in this report. A subsequent report is promised, and this point may then be clarified.—*R. Z. Schulz.*

INVESTIGATIONS COMPARING THE DANGER TO THE LUNGS FROM NATURAL AND ARTIFICIAL GRINDSTONES IN GRINDING SHOPS. *Gärtner. Arbeitsschutz, pp. 245-248 (1940).*

There is a short report of investigations made by Jötten in order to give an expert opinion, by order of the German ministry of labor. The complete report will appear as number 15 of "Arbeitsmedizin," published by I. A. Barth, Leipzig. Experiments were made in which rabbits inhaled dust produced by crushing two natural grindstones and two artificial ones. Of the latter, one was compounded of minerals, the other of ceramic compounds, containing 25% insoluble silicic acid. The dust of natural grindstones, containing 93.2 and 74.2% quartz, produced in the rabbits typical silicotic nodules. With the artificial

grindstone dust no silicotic changes were produced, only slight connective tissue and capillary proliferation.—*L. Teleky.*

PREVENTION OF SILICOSIS BY METALLIC ALUMINUM. *Jötten. Arbeitsschutz, pp. 252-254 (1940).*

The author reports results of his experiments on animals in which he used quartz with 0.75% aluminum. (The Canadian workers now employ greater amounts of aluminum.) Dust was inhaled by rabbits for 6 hrs. daily and more or less typical silicotic changes were found in animals surviving for a year. The positive findings occurred earlier than in the control animals, although the daily period of exposure was shorter [?]. The author mentions briefly that he experimented with 25 and 50% mixtures of aluminum silicate and found this material to diminish remarkably the effect of the quartz.—*L. Teleky.*

SILICOSIS FROM PORPHYRY WITH A NOTE ON "ACUTE SILICOSIS." *Symanski. Arbeitsschutz, pp. 272-274 (1940).*

Porphyry contains from 30 to 50% free silica. The author saw a man who had worked for 7 years as a quarryman but was endangered only during his 9 months' experience as a driller. He acquired a serious silicosis; 20 additional cases of silicosis from porphyry were seen, most of slight or medium degree.—*L. Teleky.*

ASBESTOSIS IN GRINDERS AND DRILLERS OF BRAKE BANDS. *Brachmann. Arbeitsschutz, pp. 172-174 (1940).*

Since 1937 workers in all asbestos manufacturing plants must be examined annually by the medical factory inspector in Saxony. The brakebands are made of sheets of asbestos, or are pressed out of asbestos

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waste products and a filler of artificial resin. Afterward plates are ground and examined by roentgen examination and drillers and men who work with pieces showed a few light shadows after they had worked 2 years. Asbestosis are found in 20% after 5 yrs. employment

DUST, SMOKE, FUMES

NOTES ON THE HOW TO MICROESTIMATION OF DUST. *Wilkinson and C. G. Australian J. Exp. Biol. and Med. Sci., pp. 341-342 (Dec. 1940).*

The authors suggest a method in preparing reagents and a new technic (Ind. & Eng. Chem. Anal. Ed. 226, 1938), to eliminate errors encountered. The method of modification of Gutze's method were able to reproduce amounts of arsenic and lead.—*B. D. Tebbens.*

ESTIMATION OF HALOGEN VAPORS IN AIR. *S. J. Burke. N. Y. Dept. of Health, vol. 19, p. 232 (Dec. 1940).*

The authors have modified the method described by Tebbens (1937). The 9 $\frac{1}{2}$ x 11 $\frac{1}{2}$ inch plate, rheostat, absorber, dr. meter, with space for It is operated at 0.75 l. claim that they obtain efficiency for chlorina carbons but only 80-90% for naphthalene. Sampling to 1 hr., depending upon expected.—*Helen Lawson.*

DETERMINATION OF HEMOGLOBIN IN THE PHOTOELECTRIC METHOD. *Havemann. Klin. Wochenschr., pp. 1183-1185 (1940).*

A method is described in a short time. The method used was consistent and is made by W. Dahlem. 1 cc. of blood

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waste products and a filler, impregnated by artificial resin. Afterwards the bands and plates are ground and drilled. Clinical and roentgen examination of the grinders and drillers and men who file individual pieces showed a few light cases of asbestosis after they had worked 2 yrs. Such cases of asbestosis are found in nearly all workers after 5 yrs. employment.—*L. Teleky.*

THE STRUGGLE AGAINST ASBESTOSIS TODAY.
Ehrhardt. Arbeitsschutz, pp. 191-193 (1940).

A short description of asbestosis, not the struggle to prevent it, which is a technical, not a medical problem. The only unusual statement in the paper is that no relationship between the nasal dust filtering ability and degree of asbestosis was found.—*L. Teleky.*

DUST, SMOKE, FUMES AND VAPORS: DETERMINATION AND ELIMINATION

NOTES ON THE HOW TECHNIQUE FOR THE MICROESTIMATION OF ARSENIC. *T. Wilkinson and C. G. Greenham. Australian J. Exp. Biol. and Med. Sci., vol. 18, pp. 341-342 (Dec. 1940).*

The authors suggest slight modifications in preparing reagents and in using the How technic (*Ind. & Eng. Chem., Anal. Ed., 10: 226, 1938*), to eliminate difficulties they have encountered. The How technic is a modification of Gutzzeit's method. They were able to reproduce observations with amounts of arsenic as low as 0.1 μ gm.—*B. D. Tebbens.*

ESTIMATION OF HALOGENATED HYDROCARBON VAPORS IN AIR. *S. Moskowitz and W. J. Burke. N. Y. Dept. Labor, Indust. Bull., vol. 19, p. 232 (Dec. 1940).*

The authors have modified the apparatus described by Tebbens (*This J., 19: 204, 1937*). The $9\frac{1}{2} \times 11\frac{1}{2} \times 19$ " box contains a rheostat, absorber, drying tube and flowmeter, with space for a combustion tube. It is operated at 0.75 l.p.m. and the authors claim that they obtain approximately 100% efficiency for chlorinated aliphatic hydrocarbons but only 80-85% for alpha chloronaphthalene. Sampling time is 10 min. to 1 hr., depending upon the concentration expected.—*Helen Lawson.*

DETERMINATION OF CARBON MONOXIDE HEMOGLOBIN IN THE BLOOD BY MEANS OF THE PHOTOELECTRIC COLORIMETER. *R. Havemann. Klin. Wchnschr., vol. 19, pp. 1183-1185 (1940).*

A method is described which takes only a short time. The photoelectric colorimeter used was constructed by the author and is made by W. Kauhausen, Berlin-Dahlem. 1 cc. of blood, or even as little

as 0.1 cc. is necessary. The error is said to be 0.5%.—*L. Teleky.*

DUST IN THE STONE AND EARTH INDUSTRY.
Arbeitsschutz, pp. 226-229 (1940).

A short review of the importance of the dust problem in the ceramic industry is presented and is followed by a report by Hass on the technical aspect of the problem, especially regarding dust sampling and counting. He mentions only a gravimetric procedure, the konimeter and tyndallmeter. Use of portable vacuum cleaners is recommended for keeping workshops clean. H. Buckup in reporting on medical aspects of the problem, said that the Saxon ministry of labor had installed an x-ray car with which 13,428 examinations have been made in 9 months. This apparatus employs a "screen method" which is cheap, but gives only small pictures in which the first stage silicosis cannot always be positively diagnosed and beginning silicosis can not be detected. In this way it was found that in one factory 12.6% of the workers suffered from silicosis (1.6% serious, 4.2% medium). In a clay pit, 12.2% were found to be silicotic.—*L. Teleky.*

X-RAY EXAMINATION OF THE STRUCTURE OF INDUSTRIAL DUST AS A METHOD OF MEDICAL EXAMINATION. *Gärtner. Arbeitsschutz, pp. 193-195 (1940).*

The author presents a short description of the method as employed in examining airborne dust and dust in the lung. It is remarkable that the author found no quartz in silicotic lungs of china-clay workers who used kaolin and sillimanite. He concludes that these substances are also able to produce silicosis, and he adds that we now know that other silicates, such as asbestos, produce silicosis. (See these abstracts, 21, 199, 1939.)—*L. Teleky.*