

to those yielded by the thermal precipitator with particle sizes of 0.9 to 510 microns. Studies have been made of the filter-stain method of sampling air-borne dust clouds. Some notes concerning the use of certain dust-sampling devices, based on underground experience, are given. When a densitometer is used for the evaluation of dust samples, the particle count is likely to be underestimated if there is a preponderance of fine particles.

Among the new instruments which have been developed is a recording anemometer for measuring underground air movement down to a few feet per minute. It is of the heated thermocouple type and can be used in shotholes and in accessible partings in the strata.

It is not accepted that the present method of using stone dust to prevent the spread of a coal dust explosion is the final solution, although at present it is indispensable. There are difficulties of application and control, and workers are exposed to additional dust. With modern mining methods more coal dust is produced than formerly, and careful attention is being given to the problems thus raised. The rate of deterioration of the incombustible content of road dust is being studied, as is also the consolidation of roadway dust by wetting solutions and calcium chloride. The explosion risk that may arise from the watering of the floors of roadways is under investigation.

Other researches include studies of the incendiary effects of small sparks caused by the rupture of low power electric circuits, of the intrinsic safety of low power electrical apparatus, of electric shot-firing, of the safe use of explosives and of various matters connected with winding ropes and the support of workings.

There is need for a readily portable instrument for measuring small concentrations of carbon monoxide.

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NEW STUDIES ON THE WETTING OF COAL DUSTS BY AQUEOUS SOLUTIONS OF WETTING AGENTS, Communication no. 72, Dust Control, Institut d'Hygiène des Mines, A.S.B.L., Hasslet, Belgium, June 6, 1950.

This is a series of tests in continuation of those reported in communication no. 66 on the determination of the ability of various wetting agents for wet coal dust. The tests consisted essentially in measuring the surface tension of solutions of several different wetting agents in distilled water, and the rate of immersion of coal particles dispersed on the surface of these solutions.

Measurements of surface tension were made by means of a du Noüy tensiometer which permits the measurement of the force required to lift a platinum ring previously immersed in the fluid. Immersion tests involved measuring the time required for the solution to wet completely a sample of about 100 mg. of coal dust dispersed on its surface under the influence of the agitation provided by a shaker table. The dust used in these tests was a soft coal dust collected from the air in the return air shaft of the Andre Dumont mine and which passed a no. 200 sieve (0.074 mm. openings).

Five tables are given, listing the results as well as the name and the address of the manufacturer of each of the wetting agents used. A table is given showing the concentrations of the different wetting agents which yielded a rate of immersion of 3 mg./sec.

The author warns against hasty generalizations from these results, since some of the wetting agents are greatly affected by the acid or the alkaline reaction of the water as normally encountered in practice.

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Accidents and Their Prevention, Protective Equipment

SIGHT CONSERVATION IN INDUSTRY: A PROGRAM FOR ELIMINATION OF EYE HAZARDS. E. W. GRIFFEY, South. M. J. 43:940 (Nov.) 1950.

According to Griffey, the files of several state industrial accident commissions and records from the United States Department of Labor show that the people of the United States experienced over 300,000 ocular injuries in 1947, of which 60 per cent were due to impact of foreign bodies of various types, while 20 per cent were due to chemical burns. These are the two greatest causes of injuries of the eyes in all industries. The cost of such injuries to industry was four times as great as that of any other one type of bodily injury.