

by observation and climatological studies. The practical application of this type of program to industrial problems, both in the field of atomic energy and otherwise, is considered."

NUCLEAR SCIENCE ABSTRACTS.

QUARTZ FINES IN DEMOLITION DUST. G. A. HUNOLD and A. LÖBNER, Chem. Ing. Tech. **21**:463, 1949.

Quantitative data are reported for the presence of silica fines in the dust from demolition and clean-up work, and it is concluded that health hazards are not present.

K. KAMMERMEYER [Chem. Abst.].

MICRO-MEASUREMENTS OF SIZE OF DUST PARTICLES. YU O. RANKO, Colloid J. Russ. **10**:42, 1948.

Stereophotometric measurements of the size of dust particles visible under the microscope lead to more accurate determinations, since the systematic errors obtained by determining the size by flat projection are obviated. Mathematical analysis of the mistakes possible in this three-dimensional measurement shows that the magnitude of the error depends on the small dimensions of the base. Linear parallax is negligible. The use of modern optical apparatus makes it possible to measure particles more than 1-2 microns to 0.1 micron with less waste in time and energy.

ATMOSPHERIC POLLUTION BULLETIN.

RAPID METHOD OF ESTIMATION OF HYDROGEN SULFIDE: I. HYDROGEN SULFIDE DETECTOR. TETSUZO KITAGAWA, Rep. Tokyo Indust. Research Inst. **44**:1, 1949.

Spray 1 part of $\text{Pb}(\text{OAc})_2$ solution on 3 parts SiO_2 gel, dried at 65 C. Place the ground granules, thus prepared, in a glass tube (diameter 3.3-3.9, length 80-100 mm.) and introduce 100 ml. of gas through it at the rate of 10-20 sec. The length of black coloration is proportional to the amount of H_2S .

K. KITSUTA [Chem. Abst.].

Radioactive Substances and X-Ray

HAZARDS IN THE USE OF RADIOACTIVE STATIC ELIMINATORS AND THEIR CONTROL. JOHN E. SILSON, Am. J. Pub. Health **40**:943 (Aug.) 1950.

Silson points out that the use of radium-containing bars for the control of static electricity generated in various industrial operations requires in turn careful control of the radiation hazards presented by this material. Protection against the gamma radiation involves the maintenance at all times of a minimum distance between the worker and the source, since shielding is generally impractical because of the great thickness of lead required. The beta radiation, on the other hand, requires a much greater distance to get below tolerance dosage, but is much more readily controlled by shielding. Much of this shielding can be accomplished by the use of a properly designed housing for the source, without interfering appreciably with the alpha radiation necessary for the ionization of the atmosphere. No additional precautions are necessary for protection against the alpha rays, except the use of gloves when momentarily handling the bars, as in cleaning them. There is no hazard from radon gas in a normally ventilated workroom, and no appreciable adsorption of this gas in the dust and lint which collects on the bars.

A careful evaluation of each industrial operation for which the bars are recommended is essential in order to provide adequate protection for the employees. Care must be used in locating bars to provide proper distance and shielding for all phases of operation. Film badge monitoring and medical supervision of the workers are advisable as a final check on the adequacy of the control measures.

FROM THE AUTHOR'S SUMMARY.