ENVIRONMENTAL MEASUREMENTS

1024 A Freeze-Out Apparatus for the Collection of Air Contaminants. E. Thelen and S. N. Muchnick. J. Franklin Inst. 253, 505-506 (May 1952).

The authors described an apparatus for collecting analyzable quantities of air contaminants in a short time, even when they are present in low concentrations. The equipment is capable of cooling 2.5 cubic feet of air per minute to -183°C. The apparatus consists of a precooling coil maintained at -72°C., a liquid nitrogen condenser, an evacuated expansion flask, and a blower. At sufficiently low concentrations, such as 200 ppm of ammonia, the equipment can recover 75 to 90% of the contaminant.

1025 A New Method of Estimating Carbon Monoxide in Air. P. Revel and P. Duquenois. Bull. acad. nat. med. 135, 490-492 (1951) French.

In this method a known quantity of air to be tested (2-5 liters) is shaken with sodium sulfite and sodium hydroxide solution to absorb oxygen and carbon dioxide, and then bubbled through a known volume of defibrinated blood, diluted to one-fifth. The carboxyhemoglobin is then estimated by Wolff's method, involving precipitation of the normal blood pigments with acetoacetic acid and estimation of carboxyhemoglobin spectroscopically. It is necessary to calibrate with known carbon monoxide-air mixtures. With 5 liters of air and 20 cc. of diluted blood, concentrations of 1/50,000 can be measured to ± 8%. The relative error is 3% at a part of the curve. The method is slow, but requires no supervision and is useful at low concentrations. -- Bull. Hyg.

1026 Microdetermination of Chromium in Blood. H. J. Cahnmann and Ruth Bisen. Anal. Chem. 24, 1341-1345 (Aug. 1952).

In the course of investigations of lung cancers among chromium workers it became necessary to have a method for the quantitative determination of traces of chromium in blood. As the chromium concentration of most blood samples which had to be analyzed was in the order of magnitude of 0.01 to 0.1 ppm, a method with a high degree of sensitivity and precision was required. A spectrophotometric micromethod is described, based on the well-known reaction of hexavalent chromium with s-diphenylcarbazide,