

- 205 Gas Masks for Industrial Safety. S. J. Pearce.
Modern Sanit. Bldg. Maintenance 12, 11, 39 (Dec. 1960).

Gas masks are not designed to be used, nor can they be used safely, under all conditions. Limitations are not unique with gas masks; every respiratory protective device has some limitations. Those for gas masks are: since a gas mask adds no oxygen to the air being breathed, it cannot be used in atmospheres containing less than 16% oxygen. It is also limited to atmospheres that contain no more than 2%, by volume, of a single harmful gas or a combination of gases (3% of ammonia). Not all canisters will protect against all gases. On the other hand, the gas mask has certain favorable features. The wearer is not hampered by trailing air lines; hence he can enter and leave a contaminated area through different openings. The gas mask is relatively light; its total weight, as worn, ranges from 3 1/2 to 7 pounds. Many types of gas masks are available: some have canisters designed to protect against a single gas, such as ammonia; others protect against 2 classes of gases, such as acid gases and organic vapors; and the universal gas masks give protection against all industrial gases, vapors, and smokes. Gas masks are widely used by men in fumigating buildings and grain bins, in operating and maintaining chemical plants, in tank-gauging operations of the petroleum industry, in fire-fighting, and in missile-fueling activities. Gas masks should not be used as a substitute for good engineering practices, such as controlling toxic gases and vapors at the source or removing or diluting of them through proper ventilation. It is advisable to store gas masks intended primarily for emergency use just outside the area where a gas emergency might occur.

- 206 You, Too, Can Stop Hand Burns. Anon. Occ. Hazards 23, 30 (Jan. 1961).

This article relates to heat-resistant mitts worn by gaugers making strip steel. The gaugers stand beside the conveyor that moves strips from the mill. These strips are so hot the gaugers must wear complete face, arm, and hand protection against radiant heat. Occasionally the gaugers stop the conveyor to see if the steel strip is uniform. A strip may be 100 to 1,000 feet long, 0.008 to 1.5 inch thick. A gauger picks up part of the strip with tongs held in one hand, measures the thickness of the steel with a micrometer held in the other. For a long time, gaugers used heat-resistant gloves that lasted no more than one shift. Heat, pressure, and abrasion combined to make the gloves break down, even split wide open exposing the gaugers' hands to bad burns. To remedy the situation the company developed a one-finger mitt made of aluminized asbestos and chrome leather. Thumb and palm are leather. The aluminized fabric, backed with a wool lining, covers the back of the hand. Hand burns stopped when the new mitt was introduced. The mitts last 6 weeks. Every gauger has his own pair and takes care of them accordingly.

MISCELLANEOUS

- 207 Measurement of Organic Contaminants in the Nation's Rivers. F. M. Middleton and J. J. Lichtenberg. Ind. Eng. Chem. 52, 99A-102A (June 1960).

A beginning survey, using the carbon filter technique, shows variability of contaminant concentrations and reveals important specific contaminants in 5 major rivers. This survey is a part of the National Water Quality Network of the U. S. Public Health Service. Concentrations of chloroform and alcohol extractable materials for the period September 1957 to April 1958 are shown for the Colorado, Columbia, Mississippi, Ohio and Missouri Rivers and for Lake Superior. Clean waters usually contain less than 100 parts per billion (ppb) of chloroform extractables. In the 5 rivers examined 100 ppb or less occurred as follows: Ohio—50%; Mississippi—72%; Missouri—90%; Colorado—92%; Columbia—96%. When computed on a tons per 24 hour basis, the organic load was found to increase with the flow.