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Response of peritoneal tissue to industrial dusts, J. A. Miller and R. R. Sayers, U. S. Pub. Health Repts., 56 (7) 264-72 (1941).—Several previous reports upon the reaction of peritoneal tissue to injected dusts are referred to. Such biological response is produced for the purpose of predicting the pneumoconiosis-producing potentialities of industrial dust. The experimental procedure upon guinea pigs as now practiced is given briefly. No cases of pneumoconiosis have been reported and confirmed among workers exposed solely to dusts of the absorptive group; all the dusts in the proliferative group, however, are known to produce a nodular, pulmonary fibrosis (silicosis). Pneumoconioses caused by dusts of the inert group (asbestos, anthracite mine, bisque ware, mica, pyrophyllite, and talc dust) have been reported, following X-ray examinations of industrial workers. The interpretation of the response of a dust injected into the peritoneal tissue of animals can be used as an index to determine the potential harmfulness of an industrial dust. Ten industrial dusts causing an absorptive reaction examined by this method are listed, together with their chemical composition and other pertinent identifying data. Among the more familiar substances in this list are calcite, gypsum, various limestones, and Portland cement. Thirtenn dusts causing a proliferative reaction, among which are five kinds of quartz, quartz-sericite, and tripoli, were also examined. Of this group, those of special ceramic interest include (1) bisque ware, a ground semivitreous pottery bisque fired at a relatively low temperature, which shows on chemical analysis 72% silica and on petrographic examination 40 to 50% quartz, the remainder being semifused clay and feldspar; (2) green ware, a ground semivitreous pottery ware, which shows on chemical examination 69% silica and on petrographic examination about 50% quartz, about 15% feldspar, and about 35% clay; another sample of green ware showed higher quartz and less feldspar and clay in about the same amount; (3) porcelain enamel frit which shows on chemical analysis 35 to 50% silica, the remainder being oxides of antimony, zinc, aluminum, and calcium. Twenty-seven dusts causing an inert reaction include aluminum, three types of asbestos, two types of anthracite coal, two types of bituminous coal, calcium phosphate, chromite, diamond dust, feldspar, four types of fuller's earth, glass wool, hematite, kaolin, mica, sericite, two soapstones, shale, and talc. Another bisque ware in the group, fired at a relatively high temperature, has about 30 to 40% quartz; the particles are wholly or partly covered by the glass phase, absent in the semivitreous; kaolin of this group shows, petrographically, predominantly china clay and hydromica, with traces only of quartz and feldspar.

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